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MORE ABOUT HEALTH LEGISLATION THIS WINTER.

The last issue of the JOURNAL contained the various bills relating to public health and medical legislation which the State Association has endorsed and will ask the General Assembly to pass at the coming session, except the Abortion Bill, which was prepared by a committee of which Dr. George P. Sprague is chairman, printed in the November JOURNAL, and the Tuberculosis Sanatorium bill, which is being put in shape by a committee of which Mrs. Desha Breckenridge is chairman. All of these bills, those already published and the two last referred to, are substantially the ones passed by an almost unanimous vote two years ago, and vetoed by Governor Willson, with such modifications as it is hoped will make them more acceptable to the Governor, should they reach him again.

Doctor, have you read these bills and talked with or written to your senator and representative about them, and have you brought them before your county society and had its endorsements forwarded to your representatives? If you have not done so, will you not attend to the matter at once in order that they may know how you and their other medical constituents feel about it before they go to Frankfort. They are not mind readers and have no way to know except as you tell them and should not be blamed for voting wrong unless you have done your duty. Will you not write to this office promptly after you have done as above suggested, that we may know what to expect of your representatives. Dr. J. N. McCormack will spend a good part of the winter at Frankfort looking after these interests, as he has done for thirty years, without the cost of one cent to the profession of Kentucky, but he is practically powerless except as he has the co-operation of the medical constituents of each member of the General Assembly.

As to the appropriations provided in the bills, the following tables will be of interest to you and may be made useful in explaining matters to your representatives:

AVERAGE ANNUAL APPROPRIATIONS IN KENTUCKY FOR OTHER PURPOSES AND FOR PUBLIC HEALTH WORK

Public Schools ..	\$2,443,000
Charitable Institutions ..	628,000
Juries ..	342,000
Criminal Prosecutions ..	277,000
Penitentiaries ..	274,000
Idiots ..	167,000
Commissions to County Officers...	193,000
Judicial Salaries ..	146,000
Assessors ..	130,000
Militia for 1904 ..	64,855
Public Health Work ..	5,000

APPROPRIATIONS FOR PUBLIC HEALTH WORK IN OTHER STATES FOR 1909,

Pennsylvania ..	\$1,000,000
New York ..	152,000
Massachusetts ..	140,500
Ohio ..	131,000
Indiana ..	117,000
Kansas ..	92,000
District of Columbia ..	90,940
Louisiana ..	90,000
Florida ..	75,000
Illinois ..	72,250
Michigan ..	63,000
Kentucky ..	5,000

Important as are the appropriations, it should be understood that the abortion, vital statistics, tuberculosis sanatorium, state laboratory, school for city and county health officers bills are necessary in perfecting the machinery for the kind of comprehensive work necessary to protect the health and lives of our people, and all of this should be made plain to your representatives by personal explanations by each of their family physicians, and by a committee of your county society before they leave home. But for the veto of our several bills by the Governor two years ago, for which we have no criticism, except to say that it was a public calamity, Kentucky would now be well to the front in this life-saving work, but public sentiment is even more favorable than it was then, the public treasury is relieved of the drain incident to completing the State Capitol, starting the Normal Schools and other great pressing needs and it will be the fault of the profession if the people are not given the protection to health and life made possible by persistent scientific knowledge.

Will you see or write to your senator and representative, and have your county society explain these matters to them before they go to Frankfort, and will you write the result of your efforts to this office?

GREETING.

TO OUR SUBSCRIBERS:

The JOURNAL extends to each of you its congratulations for all the good you accomplished last year and its best wishes for your doing more for your own and the public welfare during the twelve months started this January first.

Having said which, the following eorrolary facts present themselves to your editor:

There are today, 3,782 physicians licensed to practice medicine in Kentucky. Of these, approximately 2,650 are eligible to membership in the Kentucky State Medical Association and 2,276 are members in good standing on this New Year's day.

A recent State Board of Health letter, requesting a reply and enclosing a stamped envelope therefor; the information requested being in regard to vital and morbidity statistics, and the expensiveness of disease, all for the benefit of the profession, which alone knows the facts, and the people, who always profit by all the facts our profession will tell them, was mailed to each and every one of the above enumerated physicians—eligible or not. The answers, tabulated, appear in the Bi-ennial Report of the State Board of Health. Other interesting deductions may be drawn from a careful perusal of the replies.

A few less than one-third of the physicians of the State furnished any part of the statistics requested. Of those who did not furnish them, only about 20 per cent. returned the stamped envelope with a regret note. Less than six hundred answered the questions. Only a few more than fifty of our doctors kept a careful set of case reports! Less than one hundred know exactly how much their cash collections were last year or any year! A few more than twenty

know how much work they do annually for which they receive no compensation!

All of which indicates that some good resolutions are necessary! Happy New Year!

And amongst all your good resolutions, will you not keep *one*—and *this* one? Your subscription to the KENTUCKY MEDICAL JOURNAL, together with that of every other subscriber, it has, is due *today*. It should be paid to the secretary of your county society along with your county society dues *today*. The secretary of your county society is doing a work of love. Will you not surprise him by writing a check for your county and state dues *today*? If every member in every county does this, your secretary will be so delighted and will be saved so much time and worry that he will have time to get up live, interesting programs—with you on them—at every meeting, and to write live minutes of them, like the Nelson county minutes in this number (*q. v.*), to the profit and benefit of all of us. Please send the check today!

DISEASES OF CHILDREN.

Until recently our Kentucky physicians have been too well contented with the activities of practice and the problems of state medicine, to assume that place amongst medical authors to which their attainments entitle them. Dr. Mathews' distinguished work on "Diseases of the Rectum," is still the standard in its line.

It is a pleasure to record the publication, and in Baltimore, the Southern Medical Publishing Company, of a volume on "Diseases of Children," by Henry Enos Tuley. From the graceful dedication to his wife, herself as much a favorite with the profession as her husband, to unusually complete

and accurate index. the entire volume is so valuable to the practitioner having charge of well or sick children, that no one can afford to be without it. The work is a monument to Dr. Tnley's industry, accuracy and learning.

AN UNPUNISHED CRIME.

The most innocent and helpless of God's creatures are without protection by the statute laws of Kentucky. There is nothing in the written law of this State to make it a crime to take the life of an unborn child. There is a law protecting song birds and a man is not allowed under the law to injure or mistreat his own stock; but the unborn babies can be killed with impunity. The old "common law" says that it is a misdemeanor to destroy the child after "quickening" (probably after the fourth month of pregnancy).

The unborn babies in our state are now only protected by the natural mother love and though shameful it is true, that each year hundreds of these mothers wilfully permit or instigate the death of their own offspring.

The present legislature is asked to enact a law for the protection of our unborn babies and it is hoped that the proposed law will meet with the approval of Gov. Willson. The organized medical profession of the state should place the full weight of its approval back of this bill. The efforts of the medical profession in this direction are purely unselfish and philanthropic and can demand the serious consideration of our lawmakers and the executive.

The blood of thousands of babies brought to an untimely death at the hands of the most cowardly of all criminals, the professional abortionist, cries out from the ground and the cry is being heard. The unborn babies cannot cry for mercy with audible voices; they have no power to flee from the heartless coward who threatens their feeble lives for the fee of \$10 or even less. They are utterly helpless, but just as much entitled to the protection of the state in their lives as any of us. In fact, their very helplessness should appeal to us to give them all possible protection. The enactment of such a law as the one recommended by the committee of our state association would not only be effective in restraining the criminals by fear of punishment, but it would educate the mothers and fathers and would indicate something of the degree of the crime by the severity of the penalty. Let the law of Kentucky say that the life of the unborn child shall not be taken without cause, and let an

educated citizenship say that the law must be enforced.

The medical profession has the power to give such an impulse to this proposed legislation as will insure the passage of a law adequate for the protection of the unborn babies. The fact that some of the members of our own profession are deep in the guilt of this most cowardly crime should increase our zeal to get a law to cover the cases of this class of professional criminals, hired murderers, who are slaughtering the innocents for pay, and such pay! Some men are tempted to crime in the hope of getting great riches and some to get power, but the physician who will wilfully take a human life for pay, violates every instinct of morals and decency and should not only get the most severe penalty possible, but should also receive the ostracism and contempt of all men.

The proposed law is conservative, the extreme penalty being a term in the State prison. There will, of course, be an exception in the case of legally qualified physicians who induce labor in order to save the life of the mother or child. The difficulty of enforcing this law will be little if any greater than any other law that interferes with the will of the criminally inclined. The medical profession has the opportunity and the obligation to secure this protection for the unborn babies and will most certainly see that the law is enacted, so far as such influence will prevail.

F. M. STITES.

DIAGNOSIS.

The wonderful advances of surgery in recent years have been the marvel of modern medicine. This progress has consisted chiefly in the proficiency of surgical technique and the development of asepsis. So nearly perfect is the latter that the percentage of surgical sepsis is almost *nil*. As to technique, it is hard to discover an opening for further advance after the work of a Crile, a Carrel, or a Mayo, or any of many others who seem to have reached the limit of technical skill. What then is the next step in order that the beneficent advancement of surgery may not be stayed? Asepsis was worked out by the bacteriologist. Surgical technique was improved by the anatomist and the surgeon himself. The next move appears to rest with the general practitioner and consists in early diagnosis and early surgical intervention. Eleventh hour herniotomy and *dernier ressort* appendectomy ought not to occur, not because they are unjustifiable, but because we who see the cases early should not let them get to this condition before operation. Alimentary cancer

should never reach the stage of starvation by obstruction; nor should any other cancer be allowed to extend beyond the reach of the knife. Chronic irritations of cholecystitis, of cervical lacerations, of gastric ulcer, of the tongue from roughened teeth, etc., etc., should be recognized and their danger pointed out and correction advised before malignancy supervenes. As general practitioners we are due for our contribution to surgical achievement in these respects. 1. We must make the diagnosis early, while the disease is limited and removable and while the patient is still in good condition to resist shock and to recuperate readily.

2. We must persuade the patient of the comparative safety of modern surgery and the necessity of surgical intervention in his case before it becomes a desperate measure.

3. We must get out of the surgeon's way by knowing what cases are surgical and refusing to temporize with medical treatment when the case is clearly surgical.

If we do these things the surgeons will bless us and together we will bless humanity.

W. W. A.

DIPHTHERIA AND ANTITOXIN.

In this issue, the State Board of Health announces a new contract for antitoxin for the use of county and city boards of health at reasonable prices. The well-known firm of Alexander & Co., of Marietta, Pennsylvania, have secured the contract for the next five years, and their antitoxin will be furnished in syringes ready for use. A large supply will be kept constantly on hand at the office of the Board in Bowling Green, and may be ordered by mail, telegraph or telephone at any time.

For immunizing purposes, 1,000 unit syringes will be provided. One of these should be used as soon as possible after the diagnosis, on every well child in the house, or who has been exposed as well as on such adults as remain in the sick room as nurses. In cases where swabbing the throat, or any operative procedure is indicated, such as intubation or tracheotomy, this same dose of 1,000 units should be used by each doctor or nurse exposed. These 1,000-unit syringes will cost but fifty cents each, all ready for use.

When the disease is seen and recognized on the first day, if it is mild or if the diagnosis is at all doubtful, use a curative dose of 3,000 units. This is the smallest initial dose that should ever be given in any case, however mild. It cannot be too strongly emphasized, in the light of our present experience, that it is criminal negligence to fail to use antitoxin in every case of diph-

theria, however mild it may seem. If the case is a severe one, even if seen early, do not hesitate to start with 7,000 units. In every case of diphtheritic laryngitis or membranous croup, the first dose should be at least 10,000 units, for this purpose, using two 5,000 unit syringes. In all cases the first dose should be repeated or doubled every six hours until the patient is distinctly better.

It is well to remember that too small a dose is useless and therefore dangerous. Physicians who have used 1,000 or 2,000 unit doses with bad results should not lose faith in antitoxin, but should increase the dose. "When you are in doubt, give the larger dose," may well be one's maxim. The 3,000 unit doses will cost \$1.20, while 5,000 units will cost \$1.90 and 7,000 units, \$2.20. Of course, these prices are for antitoxin ordered through the State Board of Health for the poor.

The health officer in each county or city may establish one or more bureaus where a supply of this antitoxin may be kept on hand. These should usually be with some good druggist.

The State Board of Health is to be congratulated upon securing its antitoxin for the state at such reasonable prices.

DO KENTUCKY DOCTORS WANT EX-ACT KNOWLEDGE OF DISEASE?

Two years ago, a bill was introduced into the General Assembly of Kentucky, that—so far as the writer could discover—was not considered worthy of mention by more than a half dozen physicians in the State; a bill that had it passed, would have added one more laurel to the crown of medical progress in Kentucky, and would have meant to the Health Department, and to the people of the State, what double-entry bookkeeping means to a corporation. It is a bill that must be passed before medicine can be properly yoked to statesmanship in our Commonwealth.

The same bill—providing for the collection of vital statistics throughout the State—will be introduced into the coming session, and with the help of the profession, will be passed.

Statistics are, to most men, dry and uninteresting, but these are *vital* statistics, which through analysis, are vivified into life-saving, death prevention, and into enormous cash dividends to the common people. In other words, the collection of vital statistics is merely a means to an end, and the figures do not become dry, until the facts have been wrung out of them. Facts that will give us

a record of birthright, of inheritance of disease and of property; facts that will enable the Board of Health to trace communicable diseases to their source, to discover and abolish dangerous water supplies, and prevent contamination of water sheds; facts that will give us more definite knowledge of the value of vaccines, sera, drugs, climate, etc., in disease. In short, with a bureau of vital statistics in operation, sanitation and disease prevention will be on a scientific basis, and not until then.

Let every reader of the JOURNAL make it his personal affair to aid this bill to pass. At the same time let the profession of the State see that the State Board of Health is given enough money to accomplish results.

GEORGE P. SPRAGUE.

SCIENTIFIC EDITORIALS.

INTRACEREBRAL HEMORRHAGE.

There might be two classifications of this division of the subject. Idiopathic and Traumatic. The former refers to the hitherto unapproached field of apoplexy. The therapy of apoplexy is one of the problems of the future. It remains for some cool, calculating pioneer to lead the way and blaze the trail. The reward will be great and commensurate with the importance of the achievement. Already steps have been taken by such men as Cushing, Horsley, Brochard, Hartley, Frazier and others, to bring this pathological despair into the hopeful domain of surgery. One thing is certain, that under present conditions the treatment chiefly followed is irrational, not physiologic, and decidedly inert if not distinctly harmful. Should it fall to my lot to see a person so stricken and the vital spark were yet glowing, I should indeed attempt the subtemporal decompression operation; or I would perform lumbar puncture, with the patient in the Trendelenburg position. It is a familiar spectacle in almost every community to see people just past middle life limping through the remainder of life's journey, dragging one foot and deprived of the use of one hand. I am induced to believe by correlated discoveries in cerebral surgery that even if the clot cannot be evacuated, the relief of pressure consequent to the removal of a small area of bone would at least mitigate, if not cure, the paralysis when done early.

As illustrating the good to be derived from trephining in indefinite hemorrhage, I beg to briefly report the following case:

A child, three years old, was hit by the life guard of a street-car in motion and toss-

ed to one side of the track. He cried lustily and was carried by bystanders into his home where he was examined by his family physician, who could find no marks of violence any place upon his body. A placebo was ordered and the physician left the house. He was recalled in about two hours and found the child in convulsions. Strabismus was present. There was total unconsciousness. Such was the condition of affairs when I saw him about four hours after the accident. He was removed to St. Anthony's Hospital immediately. When the head was shaved a "pond" shaped depression in the cranium was observed adjoining and posterior to the right parietal eminence. A pear-shaped flap of scalp and periosteum was reflected and a trephine opening made over the parietal eminence on the right side and the bone cut away with a DeVilbiss forceps backward to include the border of the "pond." The dura was found normal in appearance and pulsation was normal. The dura was not opened. No effort was made to restore the rotundity of the skull because there was no visible impingement of bone upon the cranial contents. An opening had been made in the cranium one and one-half by one inch, triangular in shape with the apex of the triangle at the parietal eminence and the base backward and slightly downward. The skin and periosteum restored by separate layers of sutures (catgut), a few strands of catgut left in the posterior-inferior angle and the wound closed with silkworm sutures. But little anesthetic was used as the child was in profound stupor when the operation was commenced. He awoke, on being placed in bed, perfectly rational, and the next day was out of bed. Recovery was rapid and complete and without incident. The patient did not stay in bed a single day after the operation. I am convinced that the slight depression of bone played no part in this patient's symptoms; if it had, the remarkable free interval would not have occurred. There was, I believe, a punctate hemorrhage deep in the brain structure, probably near the pons or in one of the ventricles. The removal of bone allowed for brain expansion and relief of pressure in consequence thereof. Rapid absorption of the clot or clots followed and recovery took place. The lesson I learn from this case is that relief of pressure after this method will probably save the lives of many cases which present vague and indefinite evidences with regard to localization. I think that the same amount of bone removed from the side opposite to the injury would have resulted in the same amount of good to this child. The location homolateral to the injury was

chosen for the probability of an extra dural clot. This consideration was based upon the well defined free interval that existed between the receipt of the injury and the onset of symptoms. Regarding operation for non-traumatic intracerebral hemorrhage, we note that in a large proportion of the cases we have focal symptoms as a guide to the situation of the clot and the mere fact that paralysis of an arm or leg prevails in such a large number of cases goes to show that the clot exerts cortical pressure and therefore is accessible to removal. It must be understood, however, that removal of the clot is only an incident in the operation, and that the chief object is relief of pressure by removal of bone. In trephining for apoplexy, I should chose the subtemporal route and the split muscle incision of Cushing. If upon exposing the dura I found that structure normal in appearance and pulsating, I would not proceed any further. If, on the contrary, I found it dark and pulsation feeble or absent, I should incise it and search for a clot. The osteoplastic flap has no place in operation made for decompression effects.

The symptoms of intracerebral hemorrhage are dependent upon the size of the vessel ruptured and the location of the clot. In the event of large extravasation deep stupor and sudden death rapidly supervene. In the case of more limited escape of blood somnolence and focal signs proclaim the nature of the malady.

In the traumatic cases the scene is clouded by the associate laceration of brain tissue and convulsions become an important member of the symptom group.

In addition to the two classes already considered, there should be added a third, a pathological cause of intracerebral hemorrhage, viz: Tumor. "Certain varieties of gliosarcomata are extremely vascular and whether due to an insufficient support given to new found vessels or to the undue dilatation through stasis of vessel which were originally present hemorrhages were apt to occur within the substance of such tumors." (*Keen's Surgery*, P. 210, Vol. III.)

The following analysis of a group of 13 cases described by Dr. Wm. G. Spiller, is included here for the purpose of encouraging surgeons to become more aggressive in dealing with intracerebral hemorrhage. Toward that end the period of life from the onset of symptoms and the side of the hemorrhage is the feature of prominence. The article of Dr. Spiller may be found in the *J. A. M. A.*, Volume 51, Page 2101.

Case 1. "Lived five hours with right lenticular and caudate nuclei destroyed by clot and all four ventricles filled with clotted

blood."

Case 2. "Lived 18 hours with all ventricles filled with blood and right cerebral hemisphere destroyed in greater part." (I presume by pressure.)

Case 3. "Lived three days. The hemorrhage destroyed the left lenticular nucleus part of the post limb of the internal capsule and extended almost from the posterior horn of the lateral ventricle and ruptured into the latter."

Case 4. "Lived eleven days. A large hemorrhage was in the internal capsule optic thalamus and lenticular nucleus and a clot filled the center and part of the anterior horn of the lateral ventricle."

Case 5. "Lived five days. A large hemorrhage was found in the left lateral ventricle, not extending into the posterior horn. The inner surface of the lenticular nucleus and the anterior portion of the optic thalamus were disorganized."

Case 6. "Lived one day. Hemorrhage filled both ventricle and on the left side invaded the thalamus, the posterior portion of lenticular nucleus, the internal capsule and adjoining part of the occipital lobe."

Case 7. "Lived five or six days. A hemorrhage 2.5 x 3 cm. was found in the occipital lobe. It extended into the lateral ventricle."

Case 8. "Lived about five days. The hemorrhage destroyed the posterior part of the left optic thalamus and of the posterior limb of the internal capsule and lenticular nucleus and filled the descending horn of the left lateral ventricle."

Case 9. "Lived about a day and a half. A large hemorrhage 6.5 x 4 c.m. of recent development was found in the left lenticular nucleus extending into the internal capsule and at the anterior end of the left ventricle had broken into the ventricle. Hemorrhage was found in both lateral ventricles, most in the left."

Case 10. "Lived 16 days. A hemorrhage occupied a large part of the posterior half of the left cerebral hemisphere and both lateral ventricles contained blood. The clot within the hemisphere measured 5 x 5.5 and at one level 5.5 x 6.5."

Case 11. "Life was prolonged almost two days. Large hemorrhage was found filling the whole left lateral ventricle, but not extending into the right ventricle. The substance of the brain was implicated in the lesion only near the anterior part of the left lateral ventricle."

Case 12. "Lived a little over six days. Hemorrhage measuring 4.5 x 5 c.m., had destroyed the greater part of the right lenticular nucleus, the posterior part of post-

erior limb of the right internal capsule and extended beyond the posterior portion of the optic thalamus."

Case 13. "Lived fifty-nine days. Operated and subdural clot removed. Died two weeks after operation. A large clot was found at autopsy in the left cerebral hemisphere measuring 712.5 c. m. It had destroyed the lenticular nucleus, a large part of the post limb of the internal capsule and extended to the island of Reil. The clot appeared of long duration and was partly encapsulated."

Take the first twelve cases: We find the average duration of life to have been 4 3-4 days from the onset of symptoms. The thirteenth case is not counted, because it was operated upon. The fact I want to make conspicuous is that with an enormous clotting of blood within the interior of the brain and the consequent pressure upon the very main spring of life, the victim survives almost five days and the question intrudes, how long would these people live if the clot were removed and the pressure released? Or, if a clock will run eight days without winding, how long will it run *with* winding?

Touching the matter of convulsions as a diagnostic symptom indicating the location of the clot, we quote the conclusions drawn by Dr. Alfred Reginald Allen from a study of ten cases:

"(1) Ventricular inundation has no etiology bearing on convulsions or rigidity.

(2) Purely tentatively, says Dr. Allen, and basing my opinion on the findings in these ten cases I conclude that convulsions and rigidity in apoplecticiform hemiplegia are frequently due to an involvement of the optic thalamus or the corticothalamic sensory fibres with the necessary proviso that enough of the posterior limb of the internal capsule remain uninjured to convey the motor impulse.

(3) Convulsions and rigidity in apoplecticiform hemiplegia may be caused by a sudden rapid increase in intracranial pressure, due to cerebral hemorrhage even though the optic thalamus and the corticothalamic sensory fibres are involved. In this case, as above, there must be a sufficient preservation of the motor part of the internal capsule for the transmission of impulses to the parts concerned.

(4). It is altogether unlikely that pressure or chemical change acting on the motor axons of the cerebrum or internal capsule, these axons having been severed from their perikaryons by the hemorrhagic process, could exert a stimulating action sufficient to cause convulsions or rigidity.

GEORGE A. HENDON.

LESSONS FROM OUR RECENT MEETING.

The good that regular attendance at the state meetings, or any other meeting for that matter, does a man is two fold.

First, it gets him away from his daily routine, brings him in touch with other methods, forms new friendship and is in the nature of a vacation.

Second, if he is at all assiduous in his attendance, he learns something.

For the benefit of those who were unable to attend the recent meeting, and to refresh the minds of those who were present, I wish to call attention briefly to two lessons, both of them very important, that were taught on the afternoon of the first day of the meeting—the time devoted to the consideration of eye, ear, nose and throat subjects.

The excellent paper of Dr. Dabney on diseased tonsils and adenoids was very fully discussed. It showed that the profession generally is becoming fully aroused to the necessity for thorough and painstaking work in this region.

The pathology of these glands has greatly expanded and the purely obstructive type of tonsils was shown to be the least harmful variety. It is the chronically inflamed submerged tonsil that creates most mischief. This is the variety that causes most of the serious lesions that can be traced to tonsillar infection and the necessity of complete extirpation in this variety was brought out.

The responsibility of the tonsil in the acute infectious diseases of childhood as well in such diseases as tuberculosis, rheumatism, endocarditis and nephritis was also discussed.

In short, while some of the men still did a partial removal of the offending structures in the purely obstructive cases, there was an unanimity of opinion regarding the necessity for complete dissection and removal in those cases causing general symptoms by absorption.

Personally, the writer believes that any tonsil diseased enough or large enough to provoke symptoms should be removed in its entirety.

The discussion was an evidence of the great advance that has been made in the treatment of these structures in recent years and should call the attention of the general profession strongly to the fact that, while the projecting tonsil causing obstructive symptoms demands removal, the more serious condition is exemplified in the submerged chronically inflamed tonsil.

That while the ring of a tonsillotome slipped over the first variety may succeed in re-

lieving the obstruction, the symptoms of inflammation remain in about 20 per cent. of cases and in quite a few cases, according to the writer's observation, the hypertrophy recurs.

That in the second variety attempts at removal with the tonsillotome or snare alone constitute meddlesome interference with no prospect of relief.

The rational and best procedure is the thorough dissection of all diseased tissue and complete removal of the tonsil in its capsule.

The symposium devoted to mastoid disease also brought out excellent papers and a full discussion.

The paper of Dr. Stucky was particularly useful, especially to the general practitioner, dealing as it did with the diagnosis and indications for operation in the acute type of the disease.

There was brought out the necessity of early recognition and the institution of prompt measures for relief in every case of Otitis Media; of early and wide incision of the drum membrane and rigid antiseptic treatment during the whole course of the disease. Of the necessity of opening the mastoid process in cases of subperiosteal abscess; in cases of fistula; in cases of continued high temperature after myringotomy; in cases with an amount of discharge that could not possibly come from the tympanum alone; in cases with pain continued and radiating to the occiput or down the neck; tenderness over the mastoid antrum. It may be mentioned in passing that comparison should be made also with the other side and that tenderness of the mastoid tip occurs in practically all cases of Acute Otitis Media. In cases that present sagging of the postero superior wall of the bony canal; in cases exhibiting signs of cerebral irritation, meningitis or sinus thrombosis.

That it was very difficult to say at times just when to operate in the acute cases, but that on the whole it was better to operate too early than too late, and in doubtful cases it was far better to operate than to postpone it until the advent of some of the late symptoms mentioned above, such as subperiosteal abscess, fistula or until signs of extension to the cranial contents were manifest.

That cases of Acute Otitis Media should be watched until thoroughly cured so that the necessity for the radical operation for the cure of chronic suppurative Otitis Media would practically disappear.

A note of conservatism regarding the performance of the radical operation was sounded as has been done in other places lately. That it was a difficult operation

with an appreciable mortality, that it presented the prospect of a long and tedious after-treatment and that while some reported favorable results as to hearing, in most cases the hearing was worse following the operation; that a chronically discharging ear alone was not sufficient for operation, since many cases with complete destruction of the membrana tympani or very large perforations have of a necessity a discharge from the Eustachian tube, or by superficial infections.

On the other hand, given a discharging ear with symptoms pointing to extension of the process, with headaches persistent, of a dull boring character; of dizziness with staggering gait at times; with nystagmus; slowed pulse; tenderness about the antrum and behind; a change of disposition with irritability; moroseness and periods of depression.

Given a combination of symptoms such as the above and the indications for operation are imperative. The case should, of course, be explained fully to the patient or family. The possible dangers of the operation, mortality, deafness, etc., the dangers of not doing it and let the responsibility rest with them.

The keynote of the whole discussion, however, was, cure all the acute cases thoroughly, however trivial they may seem, and there will be no chronic cases to treat.

While the radical tympano mastoid extirpation is a great operation, absolutely lifesaving at times and its development has opened up possibilities in the surgery of the brain and labyrinth, still, as in other branches, prophylaxis is better than cure.

G. C. HALL.

OFFICIAL ANNOUNCEMENTS.

ANTITOXIN FOR THE POOR.

STATE BOARD OF HEALTH.

OFFICE OF THE SECRETARY.

Bowling Green, Ky., April 15, 1907.

To the County Judges, Health Officers and Boards of Health:

We are authorized by the State Board of Health to inform you that arrangements have been completed under which you may supply persons suffering from, or threatened with diphtheria, with a standard antitoxin which shall always be fresh and reliable, and which can be furnished at wholesale prices. Our attorneys advise us that "in the event of the prevalence of diphtheria, in a given community, if the local board of health, a quorum being present, and regular minutes being carefully kept, duly

adopted an order or regulation to furnish antitoxin for the treatment of indigent persons afflicted with such disease or exposed thereto, the indebtedness thereby created would be a valid indebtedness of the county or city in which same was thus authorized."

It will be noted that to make use of this power to supply antitoxin at reasonable prices to your county or city for gratuitous use among the indigent, it is necessary for your Board to hold a regular meeting, notifying all the members of the time and place. A quorum of the Board must be present, and your Secretary and Health Officer must keep regular minutes of such meeting. A regulation must be passed and entered and a signed copy must be forwarded to the State Board of Health at Bowling Green. Our attorneys have suggested the following rule, which has been adopted and approved by this Board, and which is hereby published and recommended to the respective county and city boards for their adoption:

Rule 67. Whenever any legally registered physician practicing in county (city) of _____ and State of Kentucky, shall certify to the Health Officer of this jurisdiction that any indigent person in, or residing within, its jurisdiction, is suffering from the contagious and infectious disease known as diphtheria, or has been exposed thereto, and is in imminent danger of contracting it, thereby endangering the health and lives of other residents of this county (city), the Health Officer shall, with the approval of the County Judge (Mayor) provide and furnish such person or persons with diphtheria antitoxin at the expense of the county (city) of _____, in such amount as shall be deemed necessary by the Health Officer.

This rule shall take effect and be in force on and after its adoption and publication.

Approved.

Secretary and Health Officer.

County Judge (Mayor).

The State Board of Health must be furnished with a signed copy of such order before antitoxin will be furnished.

USEFULNESS OF ANTITOXIN.

No argument is needed in favor of the use of antitoxin in the treatment of diphtheria. It is safe to say that it has reduced the average mortality from this disease by one-half. It has also greatly reduced the duration of the disease in the cases that recover, and thereby the period of quarantine during which the public is more or less endangered.

Of still greater use, probably, is the em-

ployment of antitoxin in small doses to prevent the development of diphtheria in those necessarily exposed to it.

In New York City antitoxin was used in 1043 cases of exposure and only 3 of these contracted diphtheria. In Chicago 7051 persons who had been exposed to diphtheria were given immunizing doses of antitoxin, and but 46 of those contracted diphtheria and none of them died.

We would strongly urge the more general use of antitoxin for the prevention of this disease as a wise public health measure. When diphtheria occurs in some poor family, living in close quarters, as so often happens, so that isolation of the sick one is impossible, the best thing to do is to at once inject each member of the household with a small dose of antitoxin. This will give them almost complete protection from the disease for some weeks.

There is little or no danger in this. Antitoxin is now made under the inspection of the national authorities, and its purity is assured.

PLAN FOR SUPPLYING AND DISTRIBUTING ANTITOXIN.

In order that boards of health may be able to secure reliable antitoxin on short notice the State Board of Health has arranged to keep a fresh stock constantly on hand, and a supply will be sent at once to any board of health requesting it.

Arrangements have been made with the Alexander Biological Laboratories of Marietta, Pennsylvania, to keep the board supplied with their concentrated antitoxin. A specially low price has been made to boards of health. It comes in single packages put up in glass syringes ready for use, and will be kept in doses of 1000, 3000, 5000 and 7000 units. The price, including the syringe, to boards of health, is:

1000 units with syringe.....	\$.50
3000 units with syringe	1.20
5000 units with syringe.....	1.90
7000 units with syringe	2.20

DOSAGE.

Immunizing Dose 1000 units.
Curative Dose In light cases, not involving the larynx, if treatment is given on first day of disease, 3000 units will generally be found sufficient; if treatment is not given until the second or third day of the disease, give 5000 units. If disease is severe, and in all cases of diphtheritic laryngitis, or membranous croup, at least 10000 units should be administered, while over 10 000 units are often indicated. If favorable results do not follow within six hours, the dose should be repeated or doubled.

ed. With refined and concentrated antitoxin giving a maximum of strength in a minimum bulk, it is far safer to give large doses than to risk the danger of an insufficient dosage.

The arrangements for its distribution by the State Board of Health are as follows: Upon the request of any local board of health, or of its health officer, we will at once send by mail or express, prepaid, the number of packages ordered, in the doses indicated. A statement will be sent to the person who orders the antitoxin and a duplicate statement will also be sent to the producer. The latter will collect the amount due for the antitoxin from the local board of health. *The State Board of Health will not receive any money, and is simply acting as a distributing agent for the purpose of saving time.*

Antitoxin will be furnished to physicians upon the order of the local county or city board of health.

It may happen that an outbreak of diphtheria will occur where many persons have been slightly exposed, as in school, for example. The board of health may wish to have a small supply of antitoxin on hand for such an emergency, but may not be called upon to make use of it. To meet such conditions a board of health may order as many immunizing doses and curative doses as necessary, and have the privilege of returning to the State Board of Health within 30 days after the limit date on the packages, any unopened packages, for which it will receive credit. The only extra expense, where this is done, will be the postage or expressage upon the packages returned.

In ordering antitoxin care should be taken to explicitly state the number of packages wanted and of what doses. The post office or express office, if a large quantity is ordered, to which it is to be sent, must also be given. *When antitoxin is received it should be kept in an ice chest, where possible, until needed.*

It should be remembered that the success of antitoxin in the treatment of diphtheria depends largely upon its early use in sufficiently large doses.

Each package of antitoxin will contain a blank for a report of the case in which it is used. Physicians who receive antitoxin from boards of health will be required to fill out this blank and return it to the State Board of Health. They must also certify that the antitoxin was used for a poor person.

Local boards of health are urged to make use of their authority and this arrangement for supplying antitoxin for the cure and prevention of diphtheria. Physicians are frequently called to cases of diphtheria in

poor families where the use of antitoxin would mean the saving of life, but where the family is too poor to purchase it. The physician should not be expected to furnish it at his expense. This should be borne by the public for the reason that to lessen the number of deaths from this disease, and the period of time during which those who recover must be quarantined, and also to protect those who are exposed from having the disease, is a public health measure for which the public can well afford to pay.

By order of the Board,
J. N. McCORMACK WM. BAILEY,
Secretary. President.

STATE TUBERCULOSIS SANATORIUM BILL.

AN ACT to provide for the location, erection, organization and management in Kentucky of a State Sanatorium for the Care and Treatment of Tuberculosis, and making an appropriation for the purchase of the necessary land, and the construction and equipment of necessary buildings, and making an appropriation for the maintenance of the Sanatorium.

Section 1. Be it enacted by the General Assembly of the State of Kentucky, that a State Sanatorium for the cure and treatment of persons suffering from tuberculosis in some suitable location in Kentucky, be, and the same is hereby, established, to be known as "The Kentucky State Tuberculosis Sanatorium."

Section 2. For the purchase and location of a site for said sanatorium and the construction of appropriate buildings to accommodate the patients, officers and employees of said institution, with all necessary heating, lighting, water supply and drainage appliances, and all necessary furniture and furnishings and equipment, there is hereby appropriated the sum of one hundred and twenty thousand (\$120,000) dollars, to be paid out of any moneys in the Treasury not otherwise appropriated.

Section 3. The Auditor of Public Accounts is hereby authorized and directed to draw his warrants upon the Treasurer of the State in favor of the Treasurer of the Kentucky State Tuberculosis Sanatorium for the moneys herein appropriated, upon the order of the Board of Trustees of said Sanatorium, evidenced by vouchers duly approved and signed by the Secretary of said Sanatorium, and countersigned by the President thereof.

Section 4. The sum of sixty thousand (\$60,000) dollars annually is hereby appropriated to pay the running expenses and maintenance of said institution, said appropriation of sixty thousand (\$60,000) dollars

to be available on the passage of this act; and the Auditor of Public Accounts is hereby directed to draw his warrant upon the Treasurer of the State in favor of the Treasurer of said Sanatorium, for said appropriation of sixty thousand (\$60,000) dollars annually upon the———day of —— in each year upon the order of the Board of Trustees of said Sanatorium, evidenced by a voucher duly approved and signed by the Secretary of Said Sanatorium and countersigned by the President thereof. All vouchers shall be issued in duplicate and a copy of each shall be filed quarterly with the Auditor of Public Accounts.

Section 5. The government of said Sanatorium shall be vested in a board of trustees to consist of seven residents of the state, men and women, one from each Appellate District. At least two of these trustees shall be legally registered physicians. Within ten days after this act shall be in force and effect, the Governor shall appoint the said trustees. The term of office shall expire at the end of six years, two members shall be for six years; two in four years and three in two years; the terms of three members of said board shall expire every two years, and the first appointments shall be made for the respective terms of two and four years, and thereafter shall be appointed by the Governor three members every two years. A trustee shall hold office until his or her successor is appointed and qualified. Any vacancy occurring in said Board shall be filled for the unexpired term by the Governor.

Section 6. For the purposes of this act, the board of trustees and their successors in office shall be a body corporate with all the powers necessary to carry into effect the purpose of this act. Said trustees as soon as possible after their appointment and qualification, shall adopt a seal, organize by electing a president and a secretary and treasurer to serve for two years and until their successors are elected and qualified; but the same person may be elected to serve both as secretary and treasurer, and need not be a member of the board of trustees; and said secretary and treasurer shall give bond to the people of the State of Kentucky for the faithful performance of his or their trust, and for the proper handling and accounting for all the properties, assets and moneys of the institution that may come into his or their hands at any time, in such sum and in such form, and with such sureties as the board of trustees shall approve. Said secretary and treasurer may at any time be removed and a successor be appointed by said board of trustees in its discretion. A ma-

jority of the board of trustees shall constitute a quorum.

Section 7. Said board of trustees shall have the general control of the property and affairs of the sanatorium, and shall take such action as shall be necessary to carry out the purposes of this act, select a site for said sanatorium in such part of the State as in their judgment shall be best adapted to the wants of the institution and most economical to the State, having regard in the selection to elevation, climate, water supply, drainage, facility of access, quality of soil and price asked for land. Said site shall contain not less than one hundred acres of land. The trustees may accept on behalf of the State any gifts in money, freights, lands or other property, but such donations shall not be received or accepted as the consideration in whole or in part for the location of the sanatorium at any particular place.

Section 8. The members of the board of trustees shall receive no compensation for their services, but they shall be reimbursed for their actual expenses necessarily incurred in the performance of their duties, upon vouchers duly approved by the board of trustees, signed by the secretary and countersigned by the president thereof.

Section 9. There shall be a thorough visitation of said sanatorium by two of the trustees monthly, and by the whole board annually.

On each of these occasions a written report of the state of the institution shall be submitted to them by the superintendent of the sanatorium. On the first Friday in June of each year there shall be held the regular annual meeting of the board of trustees, at which the superintendent of the sanatorium and the secretary and treasurer thereof shall each submit a report of the affairs of the sanatorium; and the secretary and treasurer shall also submit a statement of his accounts, and the reports of the superintendent and secretary and treasurer, and the latter's statements of accounts shall be transmitted by the board, with their annual report, to the Governor for publication by the State Auditor.

Section 10. The Board of Trustees shall appoint a medical superintendent of the sanatorium for tuberculosis not a member of said board, who shall be a legally qualified physician. He shall be a graduate in medicine and surgery from some medical college recognized as in good standing by the State Board of Health, and of acknowledged skill in his profession, and must have had special training and experience in a hospital or sanatorium for tuberculosis and such medical superintendent shall, in all matters per-

taining to the sanatorium, be under the general supervision of the board of trustees, who may remove him at any time and appoint his successor.

Section 11. The Board of Trustees shall have power to establish such by-laws as it may deem necessary and expedient from time to time for defining the duties of officers, assistants or employes for fixing the conditions of admission to the institutions, support and discharge of patients, and for conducting in a proper manner the professional and business affairs of the sanatorium and also to ordain and enforce a suitable system of rules and regulations for the internal government, discipline and management of the sanatorium.

Section 12.—No person shall be received into said Sanatorium as a patient, unless said person shall have been a resident of Kentucky for at least twelve months next preceding such person's application for admission into said Sanatorium, and no person entitled to be admitted as above shall be received as a free patient in said Sanatorium, unless said person shall file with his or her application for admission into said Sanatorium, a certificate of the County Judge of the county of which the person is a resident, stating that from evidence submitted to said county judge, he is of the opinion that such applicant is unable to pay for maintenance in said Sanatorium. The Board of Trustees of said Sanatorium shall have power to provide by rule, the character of examination of which any applicant for admission into said Sanatorium shall submit before being received into said Sanatorium for the purpose of ascertaining whether or not such applicant is suffering from tuberculosis. No greater number of persons shall be admitted to said institution than can be properly taken care of and treated. As nearly as it may be done, each county of the State shall have the right to have admitted its proper and proportionate number of free patients to pay their maintenance in said Sanatorium, and as far as it may be done, preference may be given by the Board of Trustees, to applicants for admission into said Sanatorium from counties wherein no provision has been made for the treatment in sanatoria of persons suffering from tuberculosis.

Section 13. Where patients who have been, or may be maintained in said sanatorium, have or shall acquire estate which can be subject to debt, the Auditor of Public Accounts is authorized and directed in every such case, to sue them in the name of said Sanatorium, and recover the amount of such patient's maintenance, or so much thereof as

such estate will suffice to pay for the time such patients shall have been kept and maintained therein, and not otherwise paid for, and by proper proceedings subject their estates, respectively, for the payment thereof; and when the husband, wife or parent of any such patient, who has been or may be supported in said Sanatorium, shall have estate sufficient for the support of such patient, in addition to the support of any other persons, who may be dependent on such husband or parent, in like manner to sue and recover from such husband the amount of his wife's maintenance, and from such parent the amount of his or her child's maintenance, at the rate aforesaid for the time they shall have been respectively maintained by said Sanatorium, and the statute of limitations, providing the time in which actions for such recovery may be instituted shall not run against recovery herein provided for until from and after the time at which said estate is acquired. Such suit shall create a *lis pendens lien*, and if judgment is obtained, such judgment shall constitute a lien upon so much of the patient's estate as is described in the petition. The State Auditor shall have authority to employ counsel to collect such claims, by suit or otherwise, and the compensation of such counsel for services shall in no event exceed an amount equal to 25 per cent. of the gross sum actually collected. The net sum realized in such suit shall be paid over to the State Auditor, who shall cover the same into the State Treasury. In case of failure of suits, the expenses therefor shall be paid by the State Auditor out of the State Treasury.

Section 14. If at any time the accommodations of the Sanatorium will permit the cure and treatment of patients in excess of the indigent patients sent by the various counties, as hereinbefore provided, persons suffering from tuberculosis who are able to pay for their care and maintenance, or who have persons or kindred bound by law to maintain them, may be admitted to the Sanatorium, and the charges for the support and care of such patients shall be paid to the corporation through the medical superintendent of such patients, persons or kindred, at a rate to be determined by the board of trustees of said Sanatorium. Before such persons shall be admitted to said Sanatorium, for the purpose of determining whether or not they are afflicted with tuberculosis, they shall submit to such an examination as the board of trustees may by rule determine.

Section 15. The medical superintendent shall be the chief executive officer of the

Sanatorium. He shall have the general superintendence of the buildings, grounds, furniture, fixtures, stock and the direction and control of all persons therein, subject to the by-laws and regulations prescribed by the board of trustees. He or his representative shall daily ascertain the condition of each and all the patients and prescribe or direct their treatment. He shall cause full and fair records of all his official acts and the entire business and operation of the Sanatorium to be kept regularly from day to day, in the manner and to the extent prescribed by the by-laws; and he shall see that all the accounts and records are fully made up to the last day, and present the same to the Board of Trustees at their annual meeting. It shall be the duty of the medical superintendent to admit any member of the Board of Trustees at any time into every part of the Sanatorium and to exhibit to him or them on demand all the books, papers, accounts and writings belonging to the Sanatorium, or pertaining to its business management, discipline or government; also to furnish copies, abstracts and reports whenever required so to do by said board. He shall make at the time of reception of patients a record of the date of same, name, age, residence, occupation and such other statistics in regard to every patient admitted to the Sanatorium as the by-laws may require. The medical superintendent shall have power to appoint, with the advice and consent of the Board of Trustees, whenever in their discretion it seems necessary, an assistant physician or physicians, each of whom shall be a legally qualified physician, a graduate in medicine and surgery from some medical college recognized as in good standing by the State Board of Health and of acknowledged skill in the medical profession. The medical superintendent shall also have power to remove such assistant physician or physicians, with the consent of the Board of Trustees. The medical superintendent shall have the power and authority to employ any servants or employees at the Sanatorium, all of whom shall be under his direct supervision, and any of whom may be removed by him at will. All moneys collected by the medical superintendent shall be immediately paid over by him to the Secretary and Treasurer of the Sanatorium, and his receipt taken therefor. No fees or money of any kind shall be collected by the medical superintendent or any employee of said Sanatorium, from any patient for services rendered such person while a patient in said Sanatorium.

Section 16. No member of the Board of Trustees of said Sanatorium, and no em-

ploye thereof, shall be interested directly, or indirectly, in any contract, or receive any benefit directly or indirectly from any contract made with said Sanatorium.

Section 17. The Secretary or Treasurer, as provided in the by-laws, shall have the custody of all moneys, bonds, notes, mortgages and other securities and obligations belonging to said Sanatorium, and moneys shall be disbursed only for the uses and purposes of the Sanatorium and in the manner prescribed by the by-laws on itemized vouchers allowed by the Board of Trustees, and signed by the Secretary and countersigned by the President. He shall keep full and accurate accounts of all receipts and payments in the manner directed in the by-laws and such other accounts as the Board of Trustees shall prescribe; he shall render statements of accounts of the several books, and of the funds and other property in his custody whenever required so to do by the Board of Trustees. He shall have all accounts and records fully made up to the last day preceding the annual meeting, and present the same to the Board of Trustees at their annual meeting.

ORATIONS.

SURGICAL CURE OF CANCER OF THE GASTRO-INTESTINAL CANAL.*

BY WILLIAM J. MAYO, ROCHESTER, MINN.

The cancer problem is the most important which confronts mankind, and while we are perhaps no nearer its final solution so far as

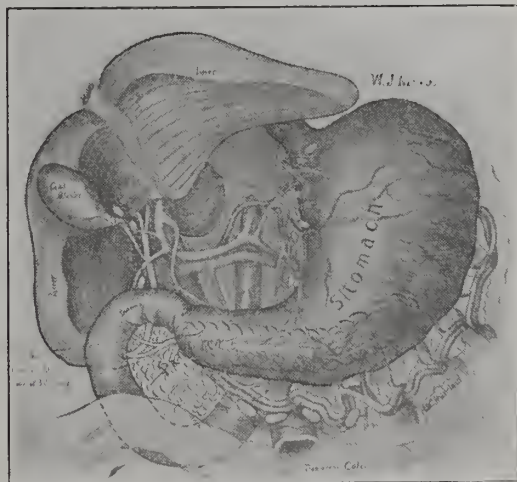


FIG. 1.—Showing the relations of the liver, gall-bladder and bile duct to the stomach duodenum and pancreas.

knowledge of its direct cause is concerned, recent investigation has at least cleared away

*Delivered before the Kentucky State Medical Association, Louisville, October 19-21, 1909.

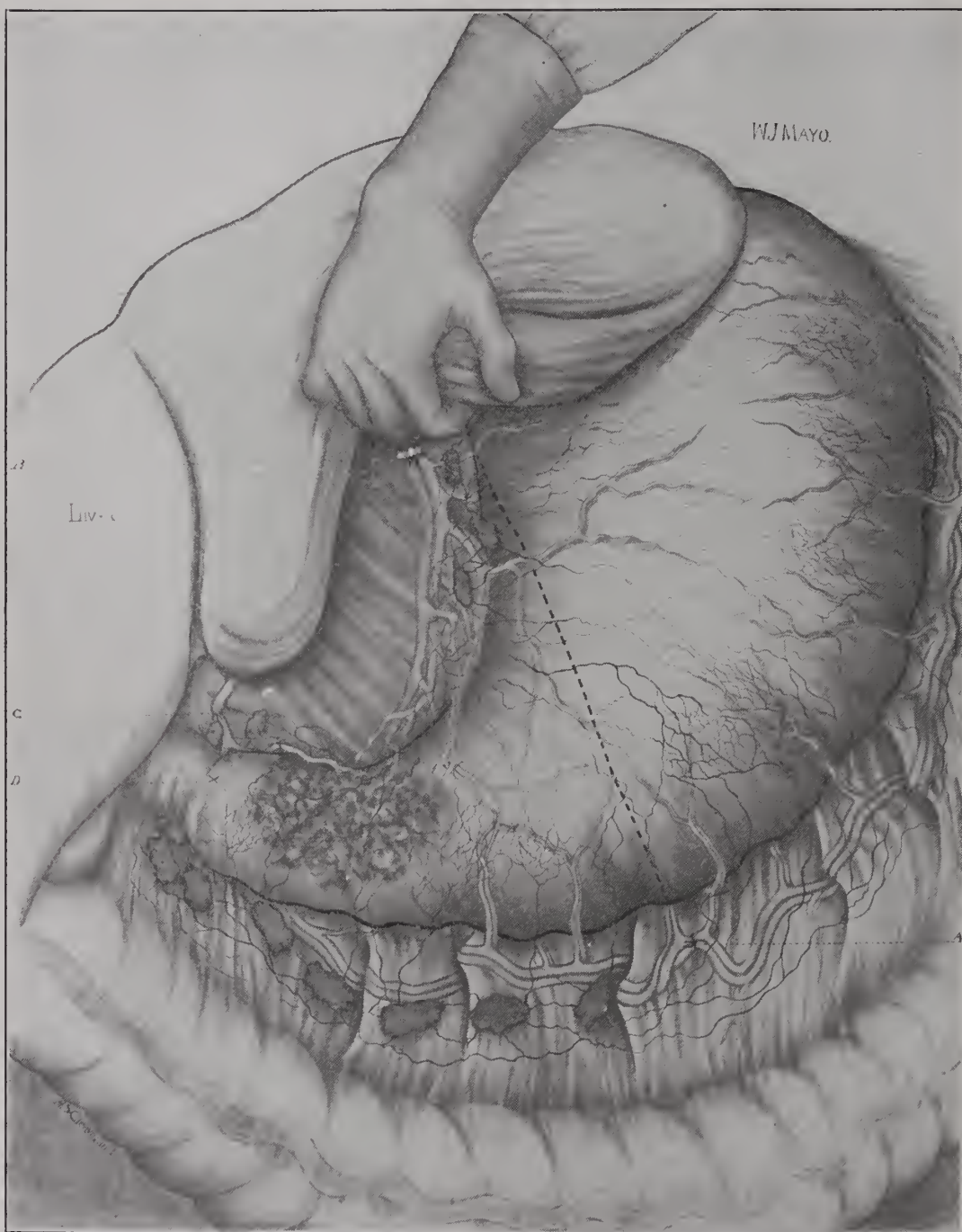


FIG. 2.—Showing cancer of pyloric end of stomach with enlarged glands, and the four blood vessels tied, and line of gastric section. (A) Left Gastro-epiploica ligated. (B). Gastric Artery ligated. (C). Superior Pyloric ligated. (D). Gastro Duodenalis ligated.

some of the fog of supposition and superstition which has surrounded the subject in the past.

All forms of animal life are liable to some form of cancer, and the statements made by travelers that aboriginal races do not suffer from the disease, is based upon inference and incorrect observation. The health margin of

primitive people is very narrow and the victims of cancer among them succumb quickly in the struggle for existence. The disease, therefore, is but little in evidence rather than absent.

It has been definitely shown also that cancer is not hereditary although it cannot be said positively that the soil in certain fam-

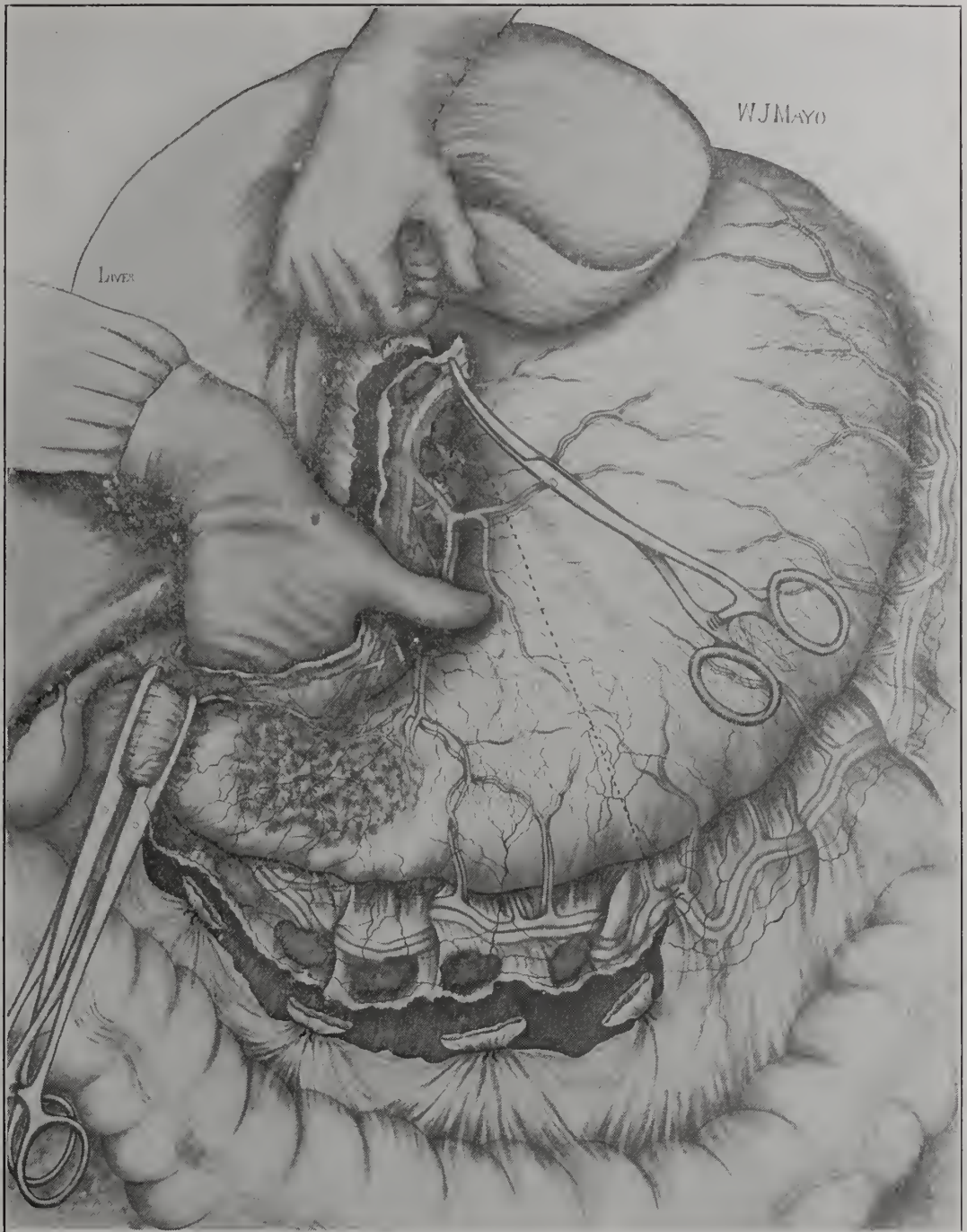


FIG. 3.—Showing duodenum clamped and pyloric end of stomach separated, ready for resection.

ilies is not more favorable to its development than it is in others. The presumptive evidence is against direct contagion by inoculation although the Scotch verdict of "not proven" best describes the present status of our knowledge.

During the last ten years an enormous impetus has been given to the study of cancer, by the foundation of research laboratories. In this country they have been endowed by

private philanthropy, as in Boston, or through state aid as in Buffalo, New York. In England, the active work is represented by the Imperial Cancer Commission and the Middlesex Hospital. The latter institution is to be associated with a third cancer institute to be carried out by the Barnato Fund. In Germany, the Heidelberg Cancer Institute under the charge of Czerny, the most notable.

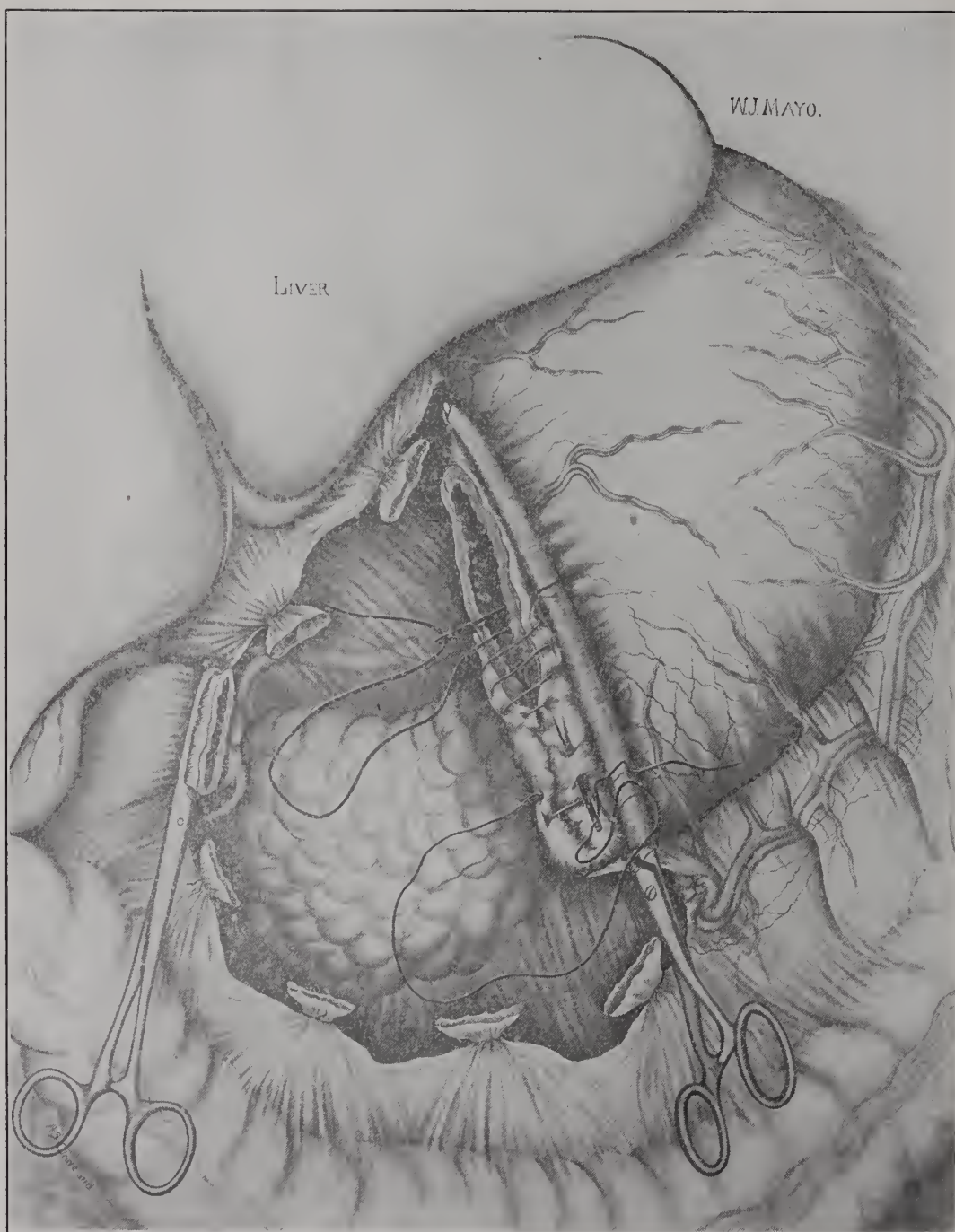


FIG. 4.—Showing closure of stomach, and the through and through catgut suture, two-thirds completed, and outer linen continuous Cushing suture just started.

These various institutions for cancer research have been vastly useful not only in clearing away venerable cancer legends, but in that they have accentuated certain previously known clinical facts which had not been recognized at their full value.

It is worth while to consider the bearing of several of these investigations upon the radical treatment of cancerous disease.

First: Johan Orth has shown that all there is of cancer is in the cancer cell, that each cell contains within itself the possibility of unlimited cell division, and that the stroma of the cancer which was for a long time considered a necessary part of the cancerous process, was in truth, but the measure of nature's resistance, and represented an ineffectual effort to stem the tide of cancerous

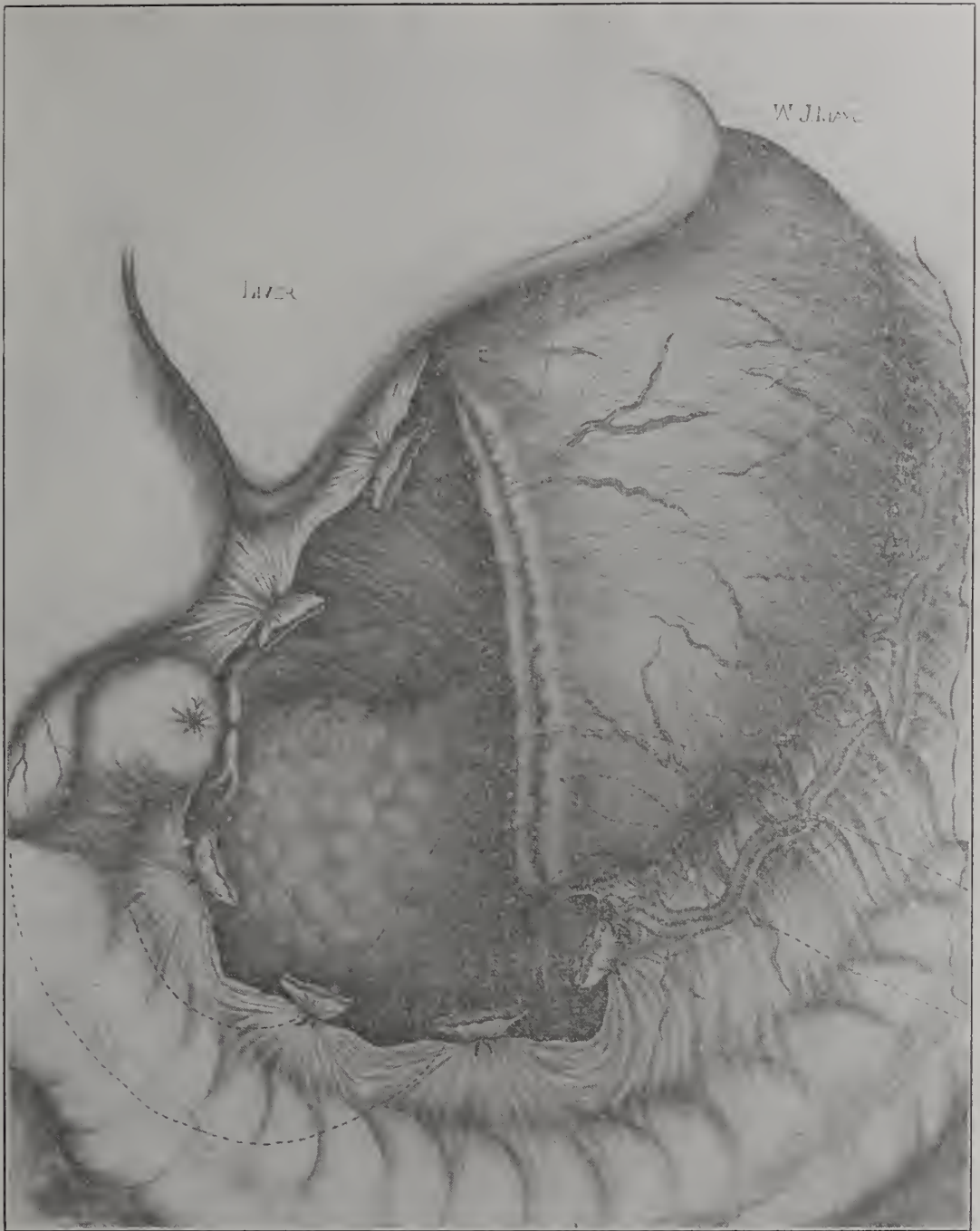


FIG. 5.—Gastro-intestinal canal restored by independent posterior gastro-jejunostomy, Billroth. No. 2.—Duodenum and jejunum dotted in as they lie behind.

invasion. Viewed from this standpoint we can readily see why scirrhus is slow in its development, and why contracting cancer of the mamma in which the stroma is so greatly in excess of the cell, may, by slow strangulation, maintain an efficient barrier against the disease for many years. It also explains the action of various chemical and thermic agents which have proven useful in the palliation

and in checking the spread of the cancerous process. While the individual affected by the disease may not be able to effectually resent the insult of cancer growth which in him is represented by a high-cell proliferation with a small amount of stroma, yet his tissues will quickly resent the insult of a burn, and the resulting scar tissue acts as a barrier which,

like the stroma of the slower growths, temporarily prevents its spread.

Second: What might be called the triumph of modern investigation is the proof that all cancers are at one time local and that in this period they are curable. This fact should lead us to strive still more earnestly for a recognition of the early manifestations and the eradication of the disease in its curable period. That form of skepticism which urges that all cancers are primarily constitutional has been the cause of enormous loss of

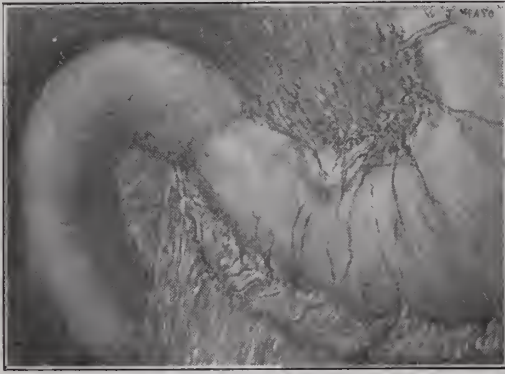


FIG. 6.—Saddle ulcer of the lesser curvature without causing serious obstruction and indicating excision. (See Fig. 5.)

life. Fortunately, this will no longer serve to excuse ignorance or inefficient methods of diagnosis, and it is well for us to understand, too, our moral responsibility for unnecessary delay. The practitioner of the future who procrastinates while watching the growth of a tumor, will be held accountable to the general public and he can no longer shelter himself behind venerable but exploded theories. Finally, it leads to the conclusion that there is no known cure for cancer except removal while it is still a local process, and that all cancers in all parts of the body are necessarily surgical from their inception, and that a suspicion of it should lead to a surgical consultation.

Third: Heidenhain was first to correctly appreciate the relation of the lymphatics to the spread of cancer, and his painstaking research work in cancer of the breast, still remains a monument to his name. He made from 11,000 to 17,000 serial microscopic sections from 11 breasts, practically converting the whole field into one gigantic microscopic picture, and demonstrated for all time the manner in which cancer spreads through the lymphatics. The more recent investigations, particularly those by Handley of the Middlesex Hospital, have served to accentuate and extend Heidenhain's views.

It has been shown that the older the patient the slower the development of the can-

cerous process. The reason for this was pointed out some years ago by C. H. Mayo. In a study of the lymphatics he demonstrated that the lymphatic system reached its height in adolescence and that in advancing life the lymphatics underwent a progressive atrophy, and this lack of lymphatics accounted for the benign course of the disease in the latter decades of life as contrasted with the riotous spread of the malignant process in the young.

The practical bearing of our modern understanding of the relations of the lymphatics to cancer, have already borne fruit and sounded the death knell of the caustic and paste in the eradication of the disease. Admitting that these agents do in a way remove the local focus, of what avail are they against the lymphatic spread. Modern operations which include a wide area about the local source, and removal of the tributary lymphatics, have enabled Halsted and others, by special technic, to give 50 per cent. of 5 year cures in cancer of the breast, as against 14 per cent. of the older writers with their limited local operations. Wertheim shows 51 per cent. of 5 year cures in cancer of the cervix as against eight per cent. of the older surgeons.

Fourth: Bashford, in his address on cancer before the International Medical Congress, 1909, again calls attention to the remarkable influence of chronic irritation in



FIG. 7.—Result of excision of saddle ulcer. (See Fig. 4.)

breaking down local resistance and thereby permitting cancer invasion; a clinical observation which has heretofore been about our only known fact in its etiology. The chronic irritation factor is evidenced in many different ways, for example: The lip cancer of the smoker and its preponderance in the male. The betel nut chewer of both sexes and cancer of the mouth. Gallstones in the production of cancer of the gall-bladder. Ulcer of the stomach and its relations to gastric cancer. The "chimney sweep" cancer, and many others too numerous to mention. All of this leading up to the most important

point in prophylaxis—the avoidance of the sources of chronic irritation and the relief of such conditions when present, as they can be truly said to be a precancerous condition awaiting only the unknown factor to set loose normal limitations upon cell reproduction. In this connection, Keen has pointed out the necessity of a careful watch for evidences of degeneration in moles, warts, nevi and congenital defects of all kinds, on account of the frequency of secondary cancer.

As a result of our modern conception of the cancer process, there has been an enor-

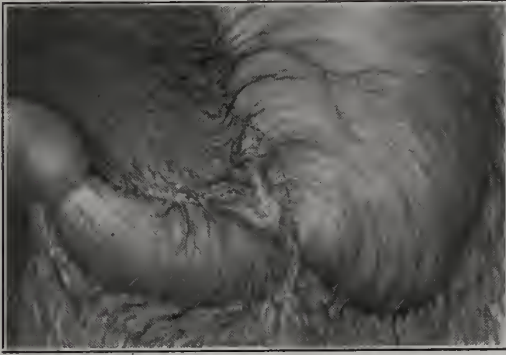


FIG. 8.—Hour-glass stomach. Dotted lines show proposed resection. (See Fig. 7.)

mous gain in the percentage of cures following operations upon accessible organs, the lip, breast, uterus, etc., where the diagnosis can be made early by direct inspection and palpation, but 75 per cent. of all cancers in the male and 50 per cent. in the female involve the alimentary canal and are not readily accessible to these direct methods of examination. It is true that by means of the esophagoscope the esophagus can be inspected, and the rectum can be palpated digitally and inspected through the proctoscope, but one-half of all carcinomata in the male, and a somewhat smaller percentage in the female, lie between the cardiac orifice of the stomach and the beginning of the rectum, and therefore cannot be subjected to direct inspection and palpation. By means of the gastroscope, glimpses of the interior of the stomach may be obtained, and the lower sigmoid may be somewhat more adequately inspected by means of the sigmoidoscope. The X-ray bismuth method is also being used and is proving of modest service in the diagnosis of gastro-intestinal disease, yet after all these means of diagnosis are of secondary value only.

It may be truthfully said that the diagnosis of malignancy of the gastro-intestinal tract including the biliary apparatus and the pancreas, is uncertain and often impossible during the stage of local involvement be-

cause we cannot directly examine the parts involved, and we have no test which will reliably show the disease by examination of the blood or secretions. The work so far of this character is purely experimental.

As could be expected from the advanced stage in which malignant disease of the alimentary canal has heretofore come to operation, the results of surgical treatment has been bad. Billroth's mortality after resection of the stomach was 64 per cent., yet the medical mortality was and still is, 100 per cent. As a result of these various influences the curious anomaly is still seen, i. e., the patient suffering from cancer of the stomach is considered a medical case and is admitted to the medical wards of hospitals where he has no chance for his life whatever. There is no more reason why cancer of the stomach should be considered a medical disease than that of cancer of the lip, breast, or uterus should be considered medically.

To what extent is this pessimism as to the curability of cancer of the gastro-intestinal tract justified by experience? Are the bad results due to fundamental causes and therefore unavoidable, or are cancers in this region similar in all respects to cancers in other parts of the body, and the unfavorable results due to the lateness of the diagnosis



FIG. 9.—Result of resection of the obstructing ulcer in hour glass stomach. (See Fig. 6.)

and operation? I think there can be no question but that the latter view is the correct one.

With your permission I will confine my remarks to actual results obtained in St. Mary's Hospital with patients operated on by Dr. C. H. Mayo and myself during the last ten years, from October 1, 1899 to October 1, 1909. During this period 251 gastric resections were made for cancer with a mortality of 13 per cent. Of these patients, 28 per cent. operated upon more than three years ago, who recovered from the operation are alive and well.

No other organ in the body is involved in

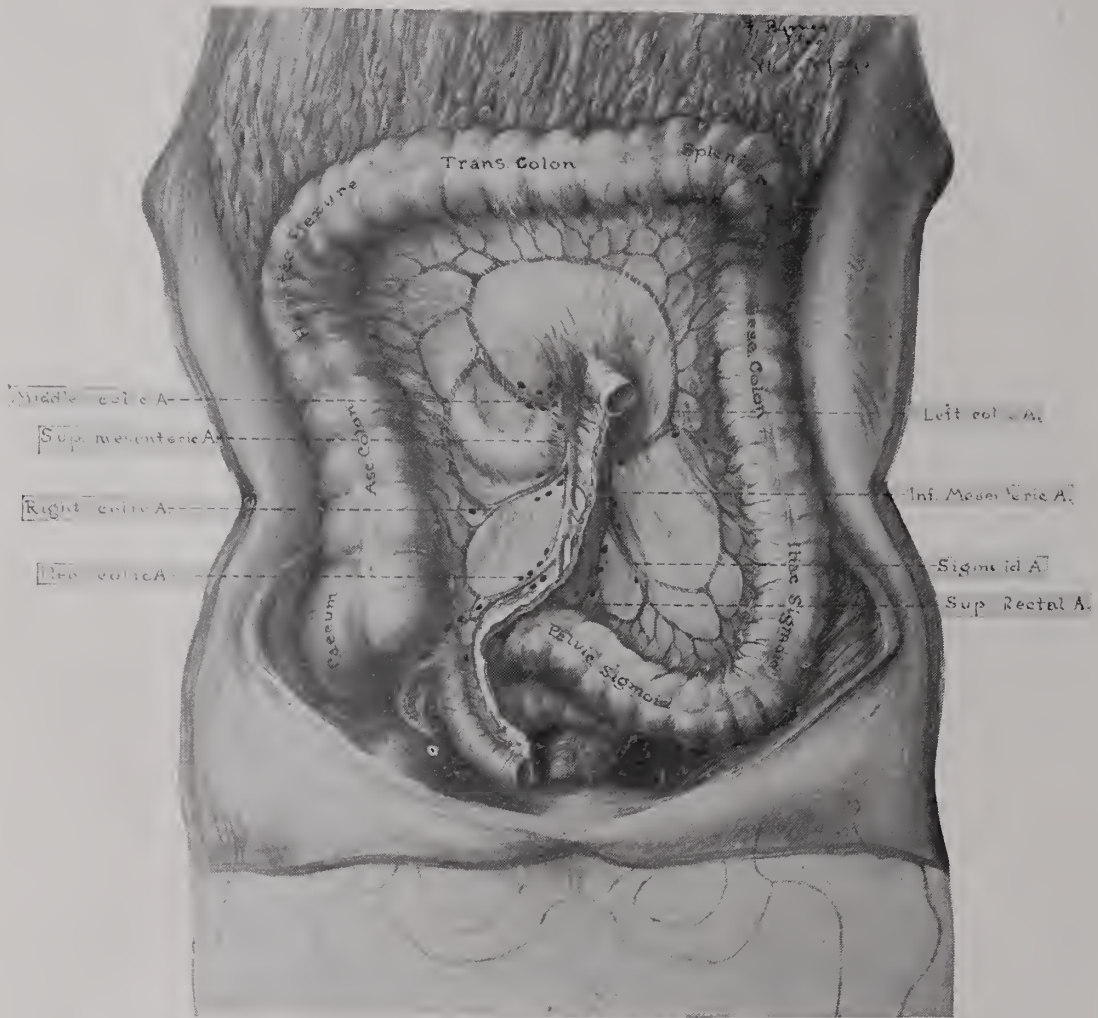


FIG. 10.—Anatomy of the large intestine. Note the relation of glands and blood vessels.

cancer as often as the stomach. Thirty per cent. of all cancers in the male involve the stomach. Twenty-two per cent. involve the stomach in the female. These statistics are conservative. Some estimates show a much higher percentage, even as high as 50 per cent.

Graham has shown that 59 per cent. of the cases of gastric cancer which came to us, gave a clear history of a chronic ulcer. From the microscopical examination of the resected portion of the stomach, Wilson was able to demonstrate the development of cancer or ulcer in 51 per cent. of the specimens obtained from gastrectomies. As accounting for the somewhat higher percentage of gastric cancer in men over women, it has been shown in our series that 58 per cent. of true gastric ulcers were in the male sex.

This question of cancer development on ulcer is a mooted point and opposed by a number of men who have devoted a great

deal of time to the purely non-operative treatment of diseases of the stomach. Their convictions are, I believe, the result of fallacious clinical examinations, and so far as this subject is concerned, the equally fallacious results of postmortem examinations. How is it possible to determine from the examination of a patient dead from cancer of the stomach whether or not ulcer had existed. By the time the patient is dead of the disease, all evidence would be lost in the extent of the cancer process.

At the present time we have a considerable number of favorable cases in which resection of the stomach for ulcer shows early cancerous development on its margin. This brings up the important point that when chronic ulcer of the stomach calls for surgical treatment, resection of the diseased area is a wiser procedure than gastroenterostomy, and leads us to believe that many of the cases in which cancer has followed upon ulcer within two



FIG. 11.—Mobilization of cecum and ascending colon. Note duodenum and ureter exposed.

or three years after gastroenterostomy, that the cancer was probably present in its earlier stages at the time of the primary operation.

As Deaver points out, what is needed in an earlier diagnosis of cancer of the stomach, and he says most pertinently, that the greatest source of delay is the test meal, and that prolonged and useless laboratory investigation is responsible for the hopeless condition in which so many of the patients present themselves to the surgeon. Without going into the question of the value of the test meal, and various laboratory tests, I think from a practical standpoint Deaver is right.

Every year we subject about 3500 individuals to gastric examination with analysis of the stomach contents, and about ten per cent. of these patients come to operation. Gastric analysis and the test meal are of importance but not of great diagnostic value. They are valuable just as the temperature and pulse are valuable, but they do not carry with them conclusive evidence during the curable period. They are merely adjuncts to the clinical side, and prolonged delay on account of their supposed value is to be deprecated.

There are two diagnostic factors of great surgical import within the reach of every

physician, and a proper recognition of their value will bring surgical cure to a vast multitude of patients afflicted with cancer of the stomach. Early cancer of the stomach does not give evidence of its presence *per se*, but only as it interferes mechanically with gastric function. First and most important by obstruction, the early presence of which is so fortunate for the victim requiring as it does an early surgical investigation. Second, by tumor.

Cancer of the body of the stomach is ushered in by a long train of indefinite symp-

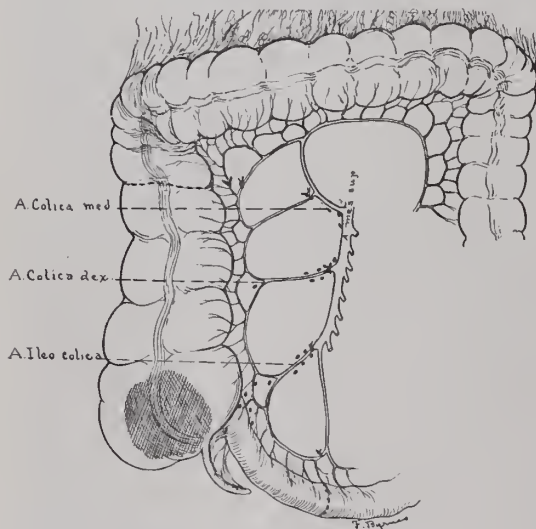


FIG. 12.—Carcinoma of Cecum. Dotted lines showing lines of resection.

oms, the lateness of the appearance of obstruction and tumor usually precluding the possibility of a surgical cure. On the contrary, early obstruction and early tumor indicate not only a favorable condition, but that the growth is in the pyloric end, the removable part of the stomach.

It has been stated by some authority, now happily forgotten, that the presence of tumor in the stomach proved the condition to be hopeless. Quite the contrary is true. The appearance early in the disease of a movable tumor with or without obstruction, promptly gives a diagnosis and makes surgical relief possible in a high percentage of cases. I will not insult your intelligence by calling attention to the fact that the ability to feel a tumor is not confined to the gastric specialist, and certainly the diagnosis of a mechanical obstruction is simple in the extreme. The patient is told to take a full meal in the evening including with it some raisins and half-cooked rice. Any residue in the stomach is removed in the morning with the stomach tube and if food remnants are re-

peatedly shown, the diagnosis of mechanical obstruction is established. It is objected that some of the obstructions are due to ulcer. Quite true, but such obstructions are equally incurable by medical means.

Small Intestine. In our series of cases, cancer of the small intestine occurred 13 times. Of these, five were of the duodenum and could not be subjected to operation beyond the exploration necessary to establish their presence. Two involved the jejunum at its origin and were inoperable, and six originated in various parts of the jejunum and ileum, all of which were resected.

It is evident that the small intestine, perhaps because of its freedom from sources of chronic irritation, is not often the primary seat of cancer. In two of the patients, the neoplasm began upon a polypoid growth, again illustrating the baneful influence of chronic irritation. Resection, with removal of the tributary lymphatics is, of course, indicated. The necessity of preserving the superior mesenteric artery in the mesentery of the jejunum, limits the extent of the operation here, but in the lower ileum wide dissections can be carried out.

Fortunately, the limited caliber of the small intestine, calls early attention to the growth, by obstructive symptoms, while the situation in the abdomen gives an opportunity for palpation in the discovery of the tumor.

Large Intestines. We have resected the large intestine 69 times for carcinoma. Of these, 29 were of the cecum and ascending colon. Ten of the transverse colon and flex-

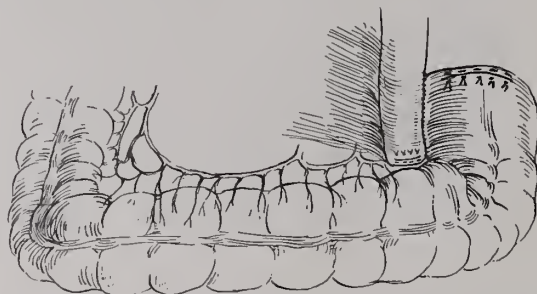


FIG. 13.—Lateral anastomosis following excision of cecum and ascending colon, between lower ileum and hepatic flexure.

ures, and 30 of the sigmoid and descending colon. Sixty per cent. of our patients subjected to resection more than three years ago who survived the operation are alive and well.

Cancer of the large intestine clearly illustrates the pernicious influences of which I have spoken previously. The colonic contents are mechanically more irritating than in the small intestine as the injesta is more solid in

character as well as more prolonged in residence. Fortunately, cancer of the large intestine is among the most curable to which the human being is subject. It has a very limited lymphatic connection; not only are the glands sparse but slow to take offense.

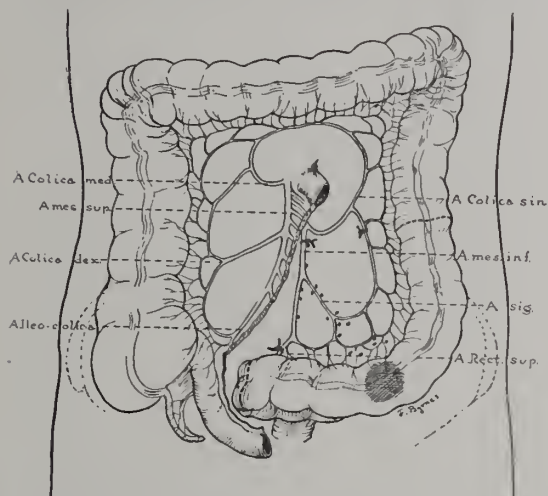


FIG. 14.—Cancer of Sigmoid. Dotted lines show proposed resection.

This is rendered necessary by the very nature of its function and even when enlarged glands are found they are often the result of the accompanying infection without actual invasion of cancerous cells. Not only this, but its lymphatics lie in well recognized

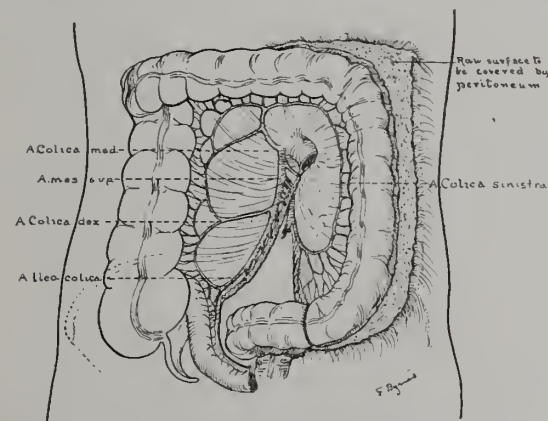


FIG. 15.—End to end anastomosis following resection of sigmoid. Note mobilization of splenic flexure and descending colon.

groups and are capable of surgical removal.

In conclusion, I wish to call attention to cancer of the gall-bladder as an illustration of the fact that cancer is primarily a local condition and curable by surgical operation in that stage, and again because it illustrates the result of chronic irritation of gallstones in its production.

Of the 3084 cases of gallstone disease

which we have operated upon, in no less than 74, nearly 3 per cent., cancer involved the gall-bladder and biliary tract, and in every case in which we were able to ascertain the facts, gallstones were present. In eight cases the gall-bladder and a considerable portion of the liver were removed for a known cancer process. None of these patients lived a year, but in five instances the removal of a thickened functionless gall-bladder containing stones, in which cancer was not suspected, the microscopical examination of the removed gall-bladder showed early cancer. All but one of these patients are alive and well.

In summing up, it can be shown conclusively, I think, that there is no reason why operations for cancer of the gastro-intestinal canal should not show results as good, both immediate and remote, as after operations for cancer in any other part of the body.

ORIGINAL ARTICLES.

INDICATIONS AND LIMITATIONS OF LOCAL ANESTHESIA IN ANO-RECTAL SURGERY.*

BY SAMUEL GOODWIN GANT, NEW YORK.

The views expressed in this paper concerning the indications and limitations of infiltration anesthesia in ano-rectal surgery are based upon a personal experience wherein two thousand operations have been performed under local anesthesia in a manner satisfactory both to the patient and myself.

At the beginning of my remarks, I wish to state that while I am now, and have been for many years, a staunch advocate of local anesthesia in the operative treatment of ano-rectal diseases when feasible, I do not employ infiltration and regional anesthesia to the complete exclusion of general narcosis in my work.

I do not believe that one is ever justified in attempting to do a rectal operation under local anesthesia until he has first satisfied himself as to the exact nature and extent of the lesion causing the trouble and whether there is any other complication which would interfere with the thorough anesthetization of the parts or would in any way tend to prevent the operator from performing a thoroughly radical operation.

It is well to bear in mind, however, that

*Read before the Kentucky State Medical Association, Louisville, October 19-21, 1909.

about eighty per cent of the rectal ailments requiring operation are composed of uncomplicated hemorrhoids, fissure, ulcers, small fistulae, anal papillae, polyps, diminutive abscesses and other minor affections which can be quickly, safely, thoroughly and painlessly operated upon by means of local or infiltration anesthesia.

It is customary to employ local anesthetics for operative purposes *only*, but they have a wider field than this because they may be satisfactorily employed to desensitize the parts for operation and also to minimize pain following defecation and the application of healing remedies to fissures, ulcers and other unhealed wounds about the rectum.

The following are the local anesthetics which I have found most useful in ano-rectal work and I have been accustomed to classify them in two groups: *First*, those employed in the *palliative*, and *second*, those used in the *operative* treatment of diseases of the rectum and anus.

	(Orthoform
	(Alypin
GROUP 1.	(Anesthesin
PALLIATIVE TREATMENT—	(and
	(Analgin
	(Ether Spray
	(Ethyl Chlorid
	(Liquid Air
GROUP 2.	(Cataphoresis
OPERATIVE TREATMENT—	(Eucaine
	(Cocaine
	(Novocaine
	(Stovaine
	(Etc.

Local Anesthetics Employed in the Palliative Treatment of Ano-Rectal Diseases—Orthoform, alypin, anesthesin and analgin are extremely useful for diminishing pain, irritation and sphincter algia and to stimulate healing of the wound when applied directly to the lesions. Eucaine, cocaine, stovaine, novocaine and remedies of this class, applied in the same manner, will also lessen the discomfort and arrest the acute pain which so often follows a topical application or stretching of the anus during stool. All of these anesthetizing agents can also be used to advantage in the treatment of ano-rectal affections in the form of solutions, salves and suppositories when combined with soothing, healing, antiseptic and anti-spasmodic remedies.

Occasionally when my patients, who are suffering from a fissure, ulcer or other sensitive lesion, complain of continuous pain and spasmodic contraction of the sphincter, I give them almost instantaneous relief by

injecting a few drops of a weak solution of eucaine directly beneath the sore or by inserting a suppository containing one quarter or a grain of morphia or eucaine and a like amount of belladonna.

Local Anesthetics Employed in the Operative Treatment of Rectal Diseases.—When operating for the relief of rectal, urinary and other affections of the pelvic outlet without general narcosis, it is necessary for one to choose between regional and local anesthesia. In the former, the anesthetizing fluid may be deposited in the cord or an individual nerve with the object of desensitizing the parts supplied by it and its branches, while, in the latter, the tissue to be removed or incised is infiltrated by injecting a sufficient amount of the solution into it to produce anesthesia without making any effort to reach a particular nerve or its branches. In my work I waste no time in searching for nerves because I know that if enough of the water or eucaine is deposited to cause blanching of the tissues, I can proceed to operate without fear of evoking discomfort or pain. The desensitizing action of the anesthetic in local and regional anesthesia is due either to nerve blocking produced by the pressure of the fluid upon it, to the specific action of the drug itself upon the nervous equipment or both.

Insofar as operations about the rectum and anus are concerned, the *ether spray*, *ethyl chlorid*, *liquid air*, and other agents which deaden pain by benumbing or freezing the parts, are of little use because they induce severe initial and post-operative pain and are sometimes followed by extensive sloughing of the tissues.

Cataphoresis, as suggested by Wagner, (1886) and perfected by Morton (1891), is not a desirable means of producing anesthesia in the class of operations under discussion because it is very unreliable, requires an elaborate preparation, an extensive electrical equipment and a much longer time to completely anesthetize the parts than does eucaine, cocaine or novocaine when used by the infiltration method.

Solutions of *cocaine*, *eucaine*, *stovaine*, *novocaine* and agents of a like nature, alone or in combination, have been employed more or less frequently for producing local and regional anesthesia for a number of years and their popularity has been largely due to the writing and teaching of Corning, Seileich, Oberst, Reelus, Demont, the writer and others.

After experimenting extensively during a number of years with the above mentioned chemicals and sterile water, I have come to the conclusion that the most reliable agents

to employ in operations about the anus and rectum are a one-eighth per cent eucaine solution and sterile water or a normal salt solution. Formerly I employed the eucaine, cocaine, stovaine and similar agents many times stronger than now, but increased experience has demonstrated that any operation which can be done at all under a local anesthetic can be painlessly performed with a one-eighth per cent. eucaine solution.

My experience with eucaine has been universally satisfactory and I prefer it because it can be sterilized, does not irritate and has invariably produced a more complete anesthesia and caused less toxic manifestations than cocaine, stovaine, novocaine and like agents when used in an equal strength and quantity. In fact, when eucaine is employed in a one-eighth per cent. solution in ano-rectal operations, the patient rarely complains of pain, dizziness, turns pale, becomes excited or faints during or following the operation. This is partly due to the non-toxic effect of the drug and partly to the fact that the solution is very weak and escapes during or shortly following the operation.

While experimenting with the drugs named I observed that they invariably produced complete anesthesia of the infiltrated part when retained, but that when the solution escaped through a fissure, ulcer or fistulous opening, the tissue was but slightly anesthetized if at all. This fact suggested the idea that all or part of the desensitizing action of the water or solution used might be due to pressure exerted upon the local nerves and their branches by the fluid. To determine whether this was so or not, experiments were begun in September, 1901, with sterile water, saline solutions, compressed air, oil and other media which could be injected into and made to distend the tissues to find out what degree of anesthesia they produced. The results, in nearly every instance, showed that the injection of sterile water or a normal salt solution would, when carefully injected in sufficient quantity, produce complete anesthesia of the part and enabled me to do many operations about the ano-rectal region which were, with few exceptions, heretofore performed under general narcosis. These experiments further brought out the fact that neither the temperature of the water nor the chemicals employed were entirely responsible for the desensitizing effect of the injected fluid. I was enabled to perform many successful operations with the fluid at variable temperatures, but observed that the discomfort to the patient was less when it was introduced at the bodily temperature. It was also found, when enough of the solution was deposited in the part re-

quiring operation to cause the tissues to become glassy white in appearance, that anesthesia was complete and that they could be incised without pain but, on the other hand, when the operation was begun before such blanching was obtained, the cutting caused discomfort or sharp pain irrespective of the temperature or nature of the fluid injected.

I do not believe that the varying sensibilities of different individuals has anything to do with the result obtained from the infiltration, nor that the success of the anesthetization depends largely upon any particular chemical used for the purpose. In my opinion, the good or bad results obtained from local desensitization depend mainly upon whether or not the anesthetizing fluid, whatever it may be, is retained or limited by the tissues to the given point to be operated upon. In other words, a sufficient quantity of the solution must be injected to produce a white swelling along the line of incision which, when obtained, indicates complete anesthesia and, when not, an absence of the same.

I am frequently asked if I employ sterile water exclusively in my rectal work and invariably reply that I do not, because I sometimes employ sterile water and at other times eucaine. In fact, I usually let the patient decide which of the two agents I shall use after having explained the way in which they act.

The amount of water or eucaine solution employed in operating about the rectum varies from six drops to an ounce or more, depending upon the resistance of the tissues and the extent of the operation to be performed. For example, four to six drops would suffice for the removal of an anal papilla, a quarter of a teaspoonful for an external hemorrhoid, a half for a small and a drachm for a larger pile and from one-half to an ounce or more, for fistula, depending upon the length and number of sinuses to be divided.

In operations involving the skin, the initial injection of sterile water causes a somewhat sharper pain than does eucaine but post-operative suffering and hemorrhage following water anesthesia are not so severe, do not last as long, nor does the patient feel faint as may occur following infiltration of the tissues with a chemical agent like eucaine or cocaine.

Operations for internal hemorrhoids and other affections having a mucous covering are quickly, satisfactorily and painlessly performed under sterile water anesthesia and there is comparatively little, if any, post-operative bleeding or pain, consequently in this class of cases I greatly prefer water to

eucaine, cocaine, or stovaine.

On the other hand, I favor a eucaine solution when combination or external hemorrhoids are to be removed and when a fissure or fistula is to be operated upon, because the preliminary discomfort is less in all skin operations, where eucaine is employed, than when sterile water is used.

The surgeon should work quickly when operating under local anesthesia, irrespective of how it is produced, because the anesthetizing agent, whatever it may be, acts almost instantaneously and its effect is of but short duration. Some operators prefer to combine salt and adrenalin chlorid with sterile water or eucaine to diminish the irritating qualities of the solution, increase its desensitizing effect and to diminish bleeding during the operation. My experiments with these and other drugs employed for like purposes have demonstrated that they increase the anesthetizing effect of the fluid but little, if any, do not minimize the discomfort caused by the infiltration and, further, that while the adrenalin lessens hemorrhage during the operation, it later on causes relaxation of the vessels which favors dangerous post-operative bleeding shortly, or several hours following operation.

I have often heard proctologists say, when discussing the limitations of local anesthesia in rectal work, that they objected to infiltration anesthesia because their patients frequently squirmed about or complained of a good deal of pain during the operation, suffered later from hemorrhage, or fainted in the office or upon the street. The annoyances and complications just enumerated have been extremely rare in my practice. The fact is that the results obtained in my work when the operations have been performed under local anesthesia, have been so very satisfactory both to the patient and myself that I now rarely employ general anesthesia in minor operations about the rectum and anus. I cannot help but believe that the unsatisfactory results reported by some operators would not have occurred, if they more thoroughly understood the technique of infiltration anesthesia, employed water or the weaker solutions of eucaine or cocaine in an up-to-date manner and used more tact with their patients. In many hundreds of operations performed under water and eucaine anesthesia, I have not lost a single patient nor had one suffer from severe shock or a serious complication of any kind during convalescence or thereafter, which could be attributed to the fact that the operation was performed under local anesthesia. I do not hesitate to say that I have, now and then, been called upon to arrest slight or profuse bleeding,

which was easily controlled, and to prescribe something to relieve discomfort or pain following the operation.

Such experiences, however, should not discourage one from employing this method of desensitizing the parts for operative purposes because I am sure that if you would examine the statistics of a similar number of cases operated upon in our hospitals under general narcosis, you would find that hemorrhage and other complications occurred more frequently than in my cases where the operations were performed under local anesthesia. Of course, I have had my patients faint following the operation. I have also seen other persons keel over while watching me operate upon some one else, or because they happened to witness an accident or suddenly met with some great sorrow or unlooked for piece of good luck.

From conversations which I have had with some proctologists and general surgeons, it would appear that they do not employ local anesthesia which would enable them to perform a painless operation in five minutes, because they are afraid that their fee for services would be less than if they operated under general anesthesia, put the patient in a private room, compelled him to engage a trained nurse for a week or more and to remain in the hospital for a considerable period during which time they could pay him many visits. To this class of physicians I wish to state that the number of my patients as well as the amount they have individually paid me for my work, have both materially increased since I began to substitute local for general anesthesia in the majority of my rectal operations. I feel absolutely certain that if the present and coming generation of surgeons and proctologists would take the pains to become proficient in the technique of infiltration anesthesia and employ it when feasible in their work, that they would not only be able to perform many operations now considered impossible except under general narcosis, but that they would also completely eliminate the quacks from the field of proctology in a short time. Since most hemorrhoids, fissures, fistulae and other minor ano-rectal affections can be quickly, safely and radically operated upon in the office or the patient's home without the necessity of his going to a hospital, taking a general anesthetic and remaining in bed during a lengthy convalescence, there is no longer any excuse for him to seek the quack, as was the case a few years ago when the itinerant pile doctor did painlessly relieve many of this class of sufferers, without their submitting to general narcosis in the hospital or causing them much inconvenience or delay

from business, while physicians in the regular profession failed to accomplish this because they did not know how or would not do so.

In order that you may form some idea as to which rectal diseases are operable under local anesthesia and those which are not, I will divide them into two groups; the *first* including those which can be operated upon under local or regional anesthesia and the *second*, those which cannot be satisfactorily operated upon except under general narcosis.

Ano-Rectal Diseases Operable Under Local Anesthesia.—*Internal, protruding and bleeding hemorrhoids; external, cutaneous and thrombotic hemorrhoids, uncomplicated complete, blind, internal and external fistulae; simple prolapsus ani, fissures, anal papillae, ulcers, polypi* located near the anus. *incision of ischio-rectal, submucous, marginal and follicular abscesses, hypertrophied rectal valves, stricture within the anal canal, some congenital malformations of the anus, sacral fistulae and dermoids, condylomata and lipomata of the lower rectum and buttocks, incipient anal epitheliomata, peri-anal cysts, foreign bodies* located beneath the skin and mucosa near the anus, *division or divulsion of the sphincter for the relief of constipation, fecal impaction and sphincteralgia.* I have also performed *colostomy, appendicostomy, colopexy, cecostomy and coeliotomy* under local anesthesia to relieve *intestinal obstruction, constipation and chronic invagination*, for exploratory purposes and to improve the condition of patients suffering from rectal proidentia and the various types of ulcerative colitis causing chronic diarrhea.

Ano-Rectal Diseases Not Suitable for Operation Under Local Anesthesia.—All large, malignant and benign growths, extensive proidentia recti involving all coats of the bowel, pelvic and large peri-rectal and ischio-rectal abscesses, deep boring fistulae and polypi when large, numerous and high up.

The administration of a general anesthetic is also imperative for most surgical operations performed for the relief of lesions situated in the upper rectum and such as are required for extirpation and resection of the bowel, excision of the coccyx, removal of tumors, strictures located above the peritoneal attachment, necrosis of the coccyx or sacrum, congenital malformation of the rectum above the internal sphincter, any and all other affections of the ano-rectal region necessitating an extensive or an unknown amount of cutting.

General anesthesia is also indicated in operations for abscess, fistula, fissure, hemorrhoids, or other ano-rectal affection which interferes with the anesthetizing process, com-

plete exposure of the lesion, or prevents the surgeon from doing a thoroughly radical operation.

Again, infiltration anesthesia is impracticable when the areolar tissue is loose and allows the water or eucainized solution to rapidly disseminate before it has an opportunity to sufficiently compress or otherwise act upon the nerves and their branches to produce a satisfactory anesthesia and when a similar result follows because of the presence of an ulcer, fissure or fistulous opening, which permits the fluid to escape before desensitization of the part has been secured.

Further, general narcosis must be frequently substituted for local anesthesia in abdominal operations. In one instance I have been able by means of infiltration anesthesia to quickly perform an exploratory laparotomy, appendicostomy, cecostomy, colostomy or colopexy causing very little discomfort to my patient, while in another, this method of deadening pain proved utterly useless and it became necessary to resort to general narcosis.

When local anesthesia was successful, the tissues along the line of incision to be infiltrated were firm and held the solution intact until the blanched swelling indicating



Fissure in ano.

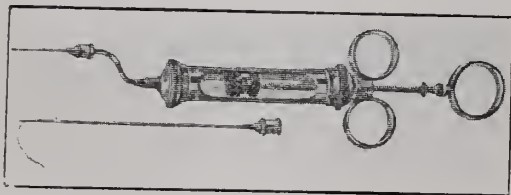
FIG. 1.

complete anesthesia of the part was in evidence, but when it was tried and failed, the

fat and other abdominal layers appeared to lack resistance or holding power, as a consequence of which not enough of the solution was retained to completely paralyze the nerve equipment of the part.

Technic of Local or Infiltration Anesthesia in Ano-Rectal Surgery.—I have elsewhere* published in detail my method of desensitizing the parts for operations about the rectum which makes it unnecessary for me to do more at this time than to mention a few of the more important features of the technic according as they differ in the various operations.

Fissure in Ano. FIG. 1. The technic of the operation for fissure is very simple, does not require more than three minutes, is invariably performed under local anesthesia without pain and the results are universally good. Using a syringe fitted with my goose-



Syringe fitted with a Bant Goose-neck attachment and the long needle with three shoulders used for infiltrating hemorrhoids.

FIG. 2.

neck attachment (FIG 2) which permits infiltration to be made without syringe obstructing the view, enough sterile water, or, preferably, a one-eighth per cent. eucaïne solution is injected into and beneath the skin at a point one-half inch directly behind the posterior anal commissure and fissure to evoke blanching of the part. (FIG. 3.)

The needle is then slowly pushed upward and forward and the muscle and underlying tissues about and adjacent to the rent are thoroughly anesthetized by depositing the solution gradually as the needle is introduced further and further. Using a pair of scissors having one sharp, and one probe-pointed blade, I pass the sharper of the two through the skin forward and then upward and externally to the sphincter for a distance of one inch, while at the same time the probe-pointed blade is passed forward into the rectum for a similar distance. With one cut all intervening tissues and the muscle are divided, this insures a clean-cut, triangular-shaped wound, more than one inch in length. (FIG 4.)

The cut is packed with gauze

to arrest bleeding after a suppository consisting of a grain of morphia and one-eighth of a grain of belladonna has been inserted to minimize the post-operative pain which otherwise would be severe for one or two hours. Such a wound is drained by means of a gauze pledget and otherwise



Showing method of infiltrating the sphincter and other tissues in the division operation for fissure.

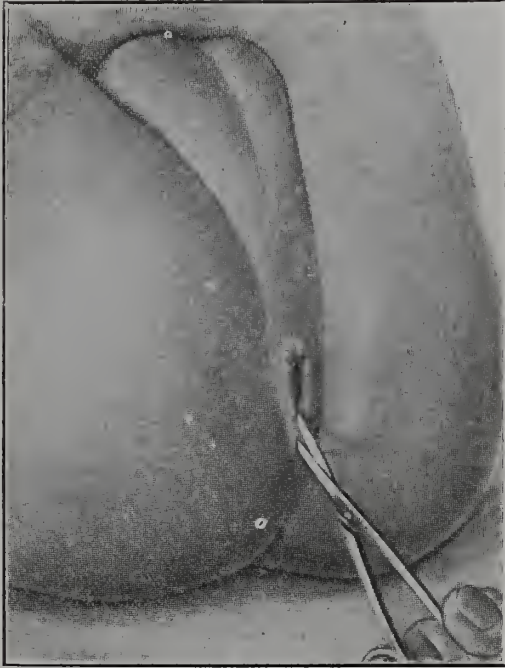
FIG. 3.

treated exactly as if the operation had been performed for a fistula. I have operated for fissure several hundred times by the above-described technic, have never failed to effect a cure, and, in not a single case has stricture, incontinence or other permanent annoying or serious sequela followed the operation. I usually carry the incision directly through the fissure and then through the muscle in the posterior median line, but very good results may be obtained by severing the sphincter with single or v-shaped incision (FIG. 5) made on either or both sides of the rent. Some surgeons advise partial division of the sphincter in the curative treatment of fissure, but this procedure is unsatisfactory because of the difficulty encountered in knowing how deep to cut and, further, because partial division does not insure the complete

*Gant: Diseases of the Rectum and Anus; 3rd Edition. T. A. Davis & Co., Philadelphia, Pa.

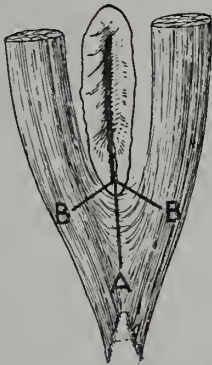
rest of the muscle which is absolutely essential for a cure.

Divulsion of the sphincter for the cure of



Showing method of dividing the sphincter in operation for fissure in ano.

FIG. 4.



B shows the V-shaped and A the postero-median incision as practised in the treatment of fissure in ano.

FIG. 5.

fissure is popular in some quarters, but I have discontinued to practice divulsion because the temporary paralysis induced by the stretching of the muscle does not always last long enough to permit the sore to be healed. Divulsion can be accomplished gradually or forcibly under both infiltration and general anesthesia, with the aid of the fingers, dilators or bougies. Usually the sphincter can be almost, if not quite, painlessly stretched under local anesthesia by first desensitizing the part about the posterior anal commissure and then carrying the infiltration upwards into the muscle and other tissues on both sides of the rectum for an inch or more.

Fissures may also be quickly and effectively *excised* under local anesthesia, but I have not found that either this or the divulsion operation gives as good results as when the muscle is completely divided after the above described method.

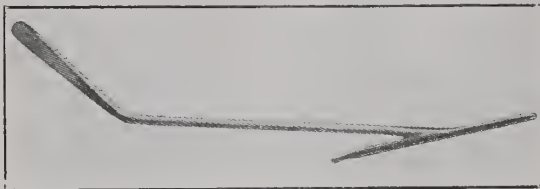
Ulcers situated near the anus are operated upon in exactly the same manner as fissures while those situated higher up are unsuited for this or any other operation, which can be performed under infiltration anesthesia.

Technic of Fistula Operations: In operating for fistula, the infiltrating water or eucaine is first deposited gradually between the layers of the skin and then beneath it, over and along the entire sinus to be divided by means of a long slender needle, extreme care being used to prevent puncturing of the tract. When a sufficient amount of the fluid has been introduced, a white, ridge-like swelling, indicating anesthesia, is produced and one may proceed with the operation, which should not cause any pain or take more than five minutes to perform.

The operative technic consists in passing a straight, probe-pointed steel director into the sinus as far as the anus and then dividing the overlying tissues. When this has been accomplished, I introduce into the bowel my probe-pointed, curved, fenestrated, grooved director which is made to encircle the muscle and then quickly sever the sphincter and other tissues, resting over the fenestrated part of the director, with one cut of the knife or scissors. This method of operating saves the patient the extreme pain which is caused by the introduction of an ordinary director into the rectum and then withdrawing and allowing it to rest across the anus while the operation is completed.

When operating upon *blind, internal fistula*, I push my probe-pointed director, FIG. 6, up the bowel and then pull it down through the sinus until the lower end impinging upon the skin is exposed by a small cut. The director is then drawn downward and outward

through the opening and the upper end is withdrawn from the bowel and permitted to



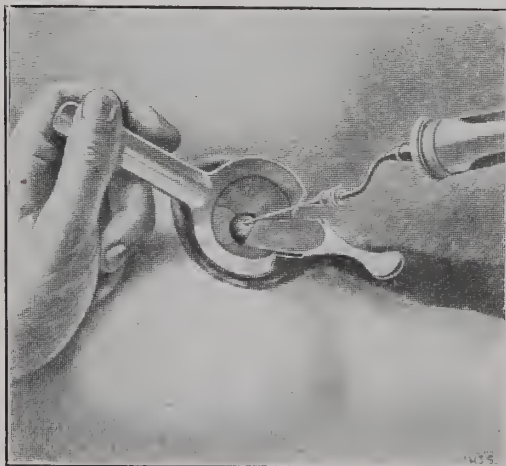
*Gant's Angren Grooved director
employed in operation for
blind internal fistula*

FIG. 6.

rest across the anus until the fistula has been divided. This type of director is very useful in this class of cases because when operating without it a great deal of time may be lost and an unnecessary amount of cutting be done by the surgeon in his efforts to locate and divide the blind sinus.

External cutaneous hemorrhoids are quickly anesthetized by infiltrating the skin, snipping them off with scissors and closing the wound with catgut or leaving it open to heal by granulation.

In *external thrombotic piles*, enough of the solution is deposited into the skin and body of the tumor to thoroughly distend and make it anemic. It is then slit open, the clot is turned out and the wound is packed with a small pledget of cotton to arrest hemorrhage and to drain the cut and prevent refilling should the edges of the wound be-

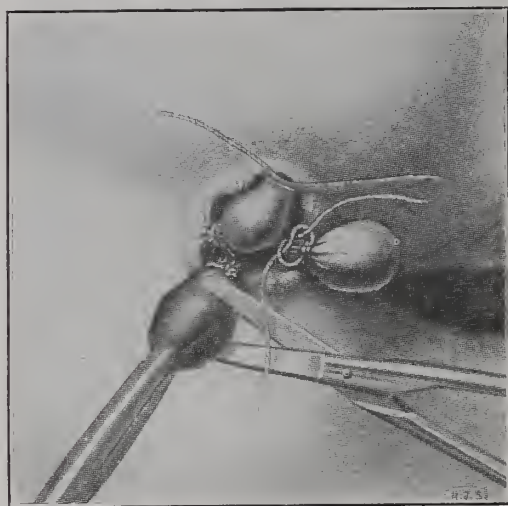


*Method of infiltrating hemorrhoid
when located well above the
sphincter.*

FIG. 7.

come sealed together before bleeding has been arrested.

Internal hemorrhoids. Much more skill is required to successfully operate upon internal than external piles. When possible, the tumors should be made to protrude through the patient's straining after taking a very small enema, eversion of the anus with the fingers, or by introducing a number of cotton balls into the bowel attached to strings and then pulling them all out together as the patient bears down, a trick which usually brings all hemorrhoids into view. A tumor is then selected and injected with a sufficient amount of sterile water or a eucaine solution to cause blanching. FIG. 7. It is then seized with forceps, drawn down and removed by the ligature, (FIG. 8) clamp or cautery, exci-



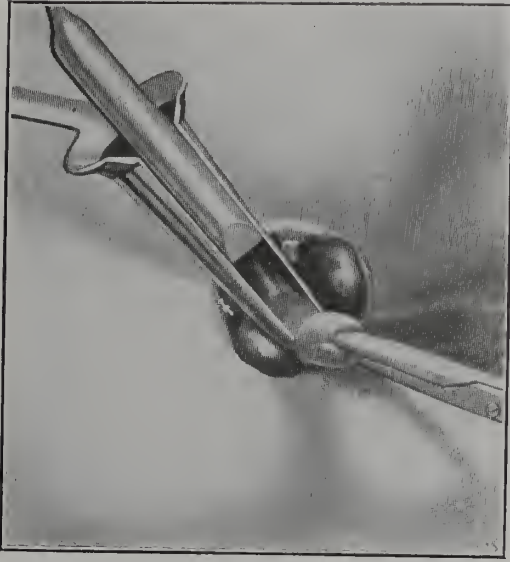
*Showing progressive steps
in the anesthetic
operation for hemorrhoids.*

FIG. 8.

sion, or other operation, after which each of the remaining tumors are in turn operated upon in exactly the same manner.

It is not necessary for the operator to see more than a small portion of pile before beginning infiltration because the tumor rolls gradually into view as the solution is deposited within it. It need not worry one because all of the piles cannot be made to protrude as this does not interfere with the operation. Under such circumstances, by introducing a slide speculum and opening the door opposite the tumor, they can be exposed one at a time, distended with the solution by means of a long needle attached to my goose-neck syringe and then turned out by tipping the

end of the speculum (FIG. 9) or by seizing



method of bringing the pile outside in the anesthesia operation for hemorrhoids by tilting the speculum.

FIG. 9.

and drawing them into the operative field with forceps.

Procedentia: I have obtained some beautiful results under local anesthesia in the treatment of simple rectal prolapse in both children and adults. My plan is to anesthetize and ligate from three to six large areas of the mucosa which are permitted to slough off and the wounds to heal as after hemorrhoidal operations. The satisfactory results obtained I have attributed to the inflammatory process set up which tends to seal the mucous and muscular coats together and prevent their slipping over each other, and to the narrowing and shortening of the mucosa caused by the cicatrices which follow.

Strictures: Many anal and rectal strictures located in the lower two and a half inches, can be speedily and painlessly operated upon when the parts are properly eucainized. The technic of desensitizing and operating upon strictures in this locality is very simple, viz: A long and strong needle is attached to a syringe holding one ounce or more. By beginning below and working upwards, the superficial surface of the constriction is infiltrated posteriorly as far as its upper extremity after which the deeper tissues along the same line are anesthetized. A probe-pointed bistury is then passed up

the bowel and through the stricture when it is withdrawn dividing the strictured rectal wall posteriorly. The long deep wound is then packed tightly with gauze to arrest bleeding.

Other Affections: The technic of producing local or infiltration anesthesia in the other ano-rectal affections operable under this method of desensitizing the parts, differs so little from that used for operating upon hemorrhoids, fissure, fistula and other rectal ailments already described, that it requires no further elucidation.

In this connection I cannot refrain from saying a few words regarding the manner in which dressings are applied, the bowels are regulated and wounds are treated by the average interne and some attending surgeons in the general hospitals following rectal operations. I believe the torture which many patients now suffer after the removal of hemorrhoids, division of a fistula, the incising of the sphincter for fissure and other operations, could be obviated if our medical men were more fully instructed while in the undergraduate colleges of medicine as regards the preparation for, and the care of patients following rectal operations. My private patients, who are permitted to leave their homes or the sanitarium quickly and come to the office for their daily dressing, heal more quickly and suffer much less than those operated upon at the larger hospitals who are cared for by an interne.

I do not believe in the dieting of patients following minor operations about the rectum and anus, but prefer to let them eat as usual and then obtain a nearly solid movement daily by the administration of fruit laxatives, liquid paraffin, confection of senna, carabanna water, a small dose of salts or a mild dinner pill, rather than to keep them upon fluids which leave them weak and favors the formation of gases.

Post-operative purgation, as frequently practiced, is wrong and should be abandoned because it induces tenesmus and a number of fluid evacuations, which soil and irritate the wound, necessitate a frequent change of the dressings, prolong convalescence and add greatly to the patient's distress. Some physicians go to the opposite extreme and tie up the bowel for several days with morphia, a procedure which also deserves condemnation because under such circumstances, the feces are retained until they are so hard and molar that, when expelled, they induce much straining and pain if they do not more seriously injure the wound.

Plugging: Much unnecessary post-operative pain also follows the introduction into the bowel of a large rubber tube wrapped

with gauze, as practiced by some surgeons, supposedly for the purpose of allowing the flatus to escape, but in reality it is placed there as a pressure plug, because the operator fears post-operative bleeding. From a personal experience with the tube obtained in Louisville and from its employment in my practice, I wish to say in all sincerity that it is unnecessary as a routine measure, causes great pain while in place and hurts terribly when removed later, because the granulations have become enmeshed in the gauze. I never use a tube or gauze plug or pledget during or following fissure, hemorrhoidal, fistular or other rectal operations, except for drainage purposes or to temporarily arrest or prevent bleeding.

Under no circumstances should a rectal speculum be introduced shortly after an operation for the purposes of examination or treatment, as is often done by the inexperienced proctologist, because it is unnecessary, causes great pain and lacerates the wound, nor should caustics be used on fresh wounds since healing can be stimulated by remedies equally as effective and less painful. Much suffering from pain and itching can be saved this class of sufferers during the post-operative treatment by having the anus cleansed frequently with hot water to remove all discharges and to soothe the sphincter, by the introduction, when necessary, of a suppository containing morphia, belladonna and eucaine to lessen pain and quiet sphincteric contractions, by applying soothing ointments, powders and solutions to ulcerated surfaces, by diminishing irritation through draining of the wound with small pieces of gauze instead of jamming it with gauze plugs, and by keeping the buttocks dusted over with a powder composed of talcum, calomel and corn starch to prevent irritation and soreness of the skin which would otherwise result from the passage over it of the discharge.

I find that patients operated upon for rectal ailments who are permitted to get up and go to their meals, lie on the sofa or come to the office for treatment after the danger of hemorrhage is passed, do very much better than when they are placed in the hospital and are confined to bed for a number of days, because under the *first* named conditions they are cheerful and feel that they are on a rapid road to recovery while under the latter, they often become despondent and it is difficult to convince them that they are not suffering from some incurable disease, or one which will require a long time to overcome.

In fact, I know of no class of sufferers who respond more quickly to psychic treatment than those under discussion.

In conclusion, I wish to say that my ex-

perience with sterile water and eucaine anesthesia in proctology during the past ten years, has been so very gratifying that I do not hesitate to recommend infiltration anesthesia in preference to general narcosis in the majority of the minor and some of the more extensive operations which the modern proctologist is called upon to perform.

DISCUSSION.

G. S. Hanes, Louisville: I am sure that every member of the society and visitors have been much entertained by Dr. Gant's excellent paper. I believe that when a paper is read upon a subject like that which Dr. Gant has just presented we may be misled to a certain extent. In the main, I believe in everything he has said, and he deserves credit for being the first rectal surgeon to advocate extensive local anesthesia. A great deal more work is being done now under local anesthesia than formerly. In a book just published, there is an extensive chapter devoted to local anesthesia in ano-rectal operations. I want to call attention to one fact, however, there is no part of the human body so difficult to anesthetize as the ano-rectal region. You have the external sphincter muscle, the levator ani muscle, and the transversus perinei muscles, and every muscle here is more or less involuntary, and whenever an attempt is made to anesthetize this region every muscle is involuntarily brought into activity. Whenever a patient has any irritation or any disease about the rectum, you will find every muscle in this region in a state of irritation. I saw a patient yesterday, and this man told me that he had had piles since 1864. When I attempted to examine him I found the sphincter muscles so tightly drawn that I could scarcely introduce my index finger. The anal canal in these cases is from an inch to an inch and a half in length. Whenever a patient complains of long continued irritation about the anal canal, it always signifies much hypertrophy of the renal muscles. These cases are very difficult to anesthetize, in fact the most difficult that one is likely to come in contact with. I can prove what I say. You may anesthetize a patient and cut off an arm, and he does not wince. You anesthetize another and do a hip-joint amputation and he does not move a muscle, but the very moment you attempt to divulse the sphincter he jumps off the table. This may be an exaggeration, but there is an element of truth which I wish to bring out. I operated on a patient a few days ago and had an expert anesthetist to give the anesthetic; he could not anesthetize that patient so that I could thoroughly divulse the sphincters without a great deal of resistance. I am trying to make the point that whenever one attempts to anesthetize these

parts locally he has one of the most difficult tasks with which he will ever come in contact.

It is said that all anal fissures can be successfully relieved by local anesthesia. I do not believe that this can be done. If you see a fissure that has been caused by passing a large constipated stool, it is really a little fissure and it can be cured easily, but when you have to contend with an old fissure, granulating, etc., it will be found that under general anesthesia there will be, most always, an extensive pathology revealed that had not been suspected nor can it be shown and successfully treated by local anesthesia.

A. B. Cook, Nashville, Tenn.: I did not expect to be called upon to participate in this discussion. However, I would like to take this opportunity of saying a few words on this subject.

When Dr. Gant began to write on the mesmeric effect which could be produced with sterile water six or eight years ago, I thought then it was a pipe story. I did not believe it, and until I went into Dr. Gant's clinic and saw him doing exactly what he claims to do, I remained a skeptic. But it is not an exaggeration to say that he is doing today what he has claimed. He is doing exactly the class of operations he has outlined to you in his paper and is doing them painlessly. Furthermore, I would like to take this occasion to say that in the last five years I have operated more than three hundred and fifty times for disease involving the ano-rectal region under local anesthesia, and if my patients can be believed, the operations did not hurt them. Now the point of controversy seems to consist of this: The different standards from which the study of this subject is approached. One may theorize about many abstruse questions in medical science to his heart's content without reaching a conclusion and until we get down to a common basis upon which to approach the study of any problem in medicine or surgery, there is no possibility of its solution. I have felt for many years that every time I gave a patient a general anesthetic for the performance of a minor operation, because many of these rectal operations can not be classified as other than minor surgery, every time I gave a patient a general anesthetic to operate for internal or external hemorrhoids or a small fistula or fissure, I felt that I was perpetrating upon that patient far more than the pathological condition justified. It is a source of the greatest pleasure and of the greatest satisfaction to me to know that I can handle these cases now successfully without pain to my patients. As I said a few moments ago, I have operated more than three hundred and fifty times under local anesthesia. Our success depends very largely upon watching the small points. Few of us can hope to reach the dex-

terity that has been acquired by Dr. Gant because I am free to confess that it is very much like a black art to me. Not only does he possess great manual dexterity, but he exerts what I may call a hypnotic influence over his patients. Having done this class of work myself in the last five years so many times and with so much satisfaction to myself, I believe I should not repress what testimony I have to add to the value of this work. From my point of view this last procedure merits the greatest single advance that has ever been made in surgical treatment of ano-rectal diseases. If I had to relinquish what I have learned in the last five years about the treatment of these diseases I would relinquish anything else in preference to this method. Many physicians have asked me in the office when discussing this subject, "Doctor, how do you get to your hemorrhoids?" I say to them, as Dr. Gant has said, that with the proper technique they are easily exposed. It has been shown in the last few years that with a regional method of anesthesia the ano-rectal region can be successfully blocked off and anesthetized, and the sphincter muscles divulsed to the point where the hemorrhoid will roll out. I have done this over and over. In the cases which come to me in which there are complicating conditions like a fissure, it may be difficult to gain access to the part; but I do not hesitate now, if there are reasons why a patient should not take a general anesthetic, to say to the patient that with your co-operation, if you promise not to be nervous and restless on the table I can divulse the sphincter muscles and get to the hemorrhoids in spite of a contracted condition and fissure being present.

I feel that this association is greatly indebted to Dr. Gant for this exhaustive paper on this subject, and I am sorry that I cannot agree entirely with both my friends, Dr. Gant and Dr. Hanes. However, I believe the truth of our experience as we have acquired it, in the interest of the advancement of medical science, should be told plainly.

S. G. Gant, (closing): I have employed local anesthesia extensively during the past ten years and find myself resorting to it more frequently as the years roll by. When I read my first paper upon this subject at Atlantic City some years ago, my views upon the usefulness of local anesthesia in rectal work were severely attacked by nearly every member present. If I remember right, my best friend, Dr. Matthews, went so far as to say that such a paper should not be included in the published proceedings of the society. On that occasion I discussed the value of sterile water as a local anesthetic. Since then, however, I have obtained letters from Dr. Matthews and most of the other proctologists in which they admit that water can be satisfactorily employed in this way.

I have never wished to create the impression that I employ sterile water to the exclusion of other anesthetics, because such is not the case. I frequently employ a 1-8 of one per cent. eucaine solution in operations about the skin. The point I want to emphasize is that about 80 per cent. of the rectal operations can be quickly, safely and painlessly performed under local anesthesia and in consequence I believe that to this extent general anesthetics should be discontinued in this class of cases.

In regard to my sterile water anesthesia, physicians have frequently asked if I use cold water and I wish to take this occasion to say that I never at any time have used the water at a low temperature, but always at the bodily temperature since warm water causes very much less pain than cold when it is injected.

The average fistula, fissure and hemorrhoids can be operated upon in six minutes with the aid of local anesthesia. Thus far in several hundreds of cases not a single accident has occurred. Slight pain follows the insertion of the needle and the initial injection, but this is only for a second and patients rarely complain if told in advance exactly when it is going to be done.

The enemies of local anesthesia, proctologists and general surgeons have nearly always asked me the same question when discussing this subject. They invariably inquire if I can get as much money for the operation when it is so quickly done without a general anesthetic as I could if the patient was placed in the hospital, engaged a special nurse and was required to take a general anesthetic and remain there for two or three weeks during which time visits could be made to him. For their benefit I wish to say that I find that my patients are willing to pay larger fees for such treatment and this is further verified by the facts that nine out of ten doctors who come to me for operation wish local and not general anesthesia. Under the circumstances I am convinced that what is good for the goose is good for the gander. If the surgeons of today would perfect themselves in the technic of local anesthesia and do this class of operations in the office or the patient's home in the manner indicated, there would be no more rectal quacks after the present generation have died.

Local anesthesia produced by water or eucaine, can be obtained in ten seconds and is indicated by the white or anemic condition of the part to be operated upon. Pain always ensues when cutting is begun while the tissues have their normal color.

In conclusion, I wish to appeal to those present to try local anesthesia in their operations for hemorrhoids, fistula, fissure and other minor affections of the anus because I am sure that they would be exceedingly pleased with it, but

not attempt to employ it in extensive operations where there is an unknown amount of cutting to be done and where the ailments named were complicated by some other affections.

CLINICAL DIAGNOSIS OF AMEBIC DYSENTERY.*

By CARL D. RENDER, LOUISVILLE.

Recent discoveries in regard to the origin of human diseases are adding to the number caused, or probably caused by protozoa. Indeed, the knowledge of the protozoan nature of the specific etiological factor in malaria, the first human disease shown to be due to protozoan life, is comparatively recent.

The evidence which has been accumulating in favor of the idea that a certain form of dysentery is due to amebic life is now almost thoroughly established. Quite recently sleeping sickness and kala-azar have been added to the list of protozoan diseases, and it is now thought that some, if not all, of the members of the group of contagious diseases, known as the exanthemata, may be due to infection with organisms belonging to this sub-kingdom. Therefore, it becomes more and more necessary for those interested in the etiology, course and prevention of diseases to obtain a more definite understanding of this great group of micro-organisms.

The clinical grouping of amebic dysentery may be classed as follows:

1st—Dysentery of moderate intensity.

2nd—Grave or gangrenous dysentery.

3rd—Chronic Dysentery.

In this classification it will be observed that cases may pass insensibly from one grade of severity to that of another. This disease is characterized by a variable mode of onset and an irregular course frequently marked by intermissions and exacerbations. The onset may be abrupt or gradual. Where it begins abruptly the patient may be seized with colicky pains in the abdomen and with diarrhoea following. He may or may not suffer from nausea and vomiting and in the great majority of cases there is no fever. The stools are frequent and watery. They may or may not contain blood at first, but subsequently contain both blood and mucus.

Where the attack begins gradually the patient, after a variable period of slight ill health, is seized with a painless diarrhoea which alternates with short periods of constipation. Blood is not at all or only occasionally observed in the stools, which are watery and contain more or less mucus.

The course of the disease is marked by an irregularity in the abdominal symptoms

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which appears to be entirely independent of the mode of onset. At irregular intervals there are intermissions and exacerbations of the diarrhoea for which no obvious cause can be assigned. These patients have muscular weakness, emaciation, tongue pale and flabby, moist and furred. The abdomen is more or less retracted, temperature not usually above 100 F.; more often normal; pulse 70 to 90; respiration 18 to 30; appetite impaired and sleep disturbed by more or less frequent evacuation of the bowels. In the grave cases the symptoms are more pronounced and anemia is a special feature which may be due to the excessive loss of blood by the bowels together with mal-nutrition, and the destruction of the red blood cells by the ameba themselves. We have found this anemia to exist both in the corpuscular elements and hemoglobin in about the same proportion.

The diarrhoea is the principle, and in some cases the only feature of the disease. It is subject to great variations in character and frequency. We have already called attention to the occurrence of intermissions and exacerbations which are the special characteristics of the diarrhoea and may be observed at any period of the illness. The stools are extremely variable in frequency, not only according to the severity of the intestinal ulceration, but also from day to day in individual cases. In gangrenous dysentery they may, at first, number from 30 to 40 in 24 hours, but subsequently decline, toward the end, in fatal cases. The amount voided, at first, is small and often consists entirely of clear or turbid masses of mucus mixed with more or less bright blood and small fecal masses and may have a penetrating, offensive odor. In dysentery of moderate severity, with an abrupt onset, the stools are, for a week or ten days, similar to those seen at the onset of gangrenous dysentery and numbering from 4 to 10 in 24 hours. The stools of chronic dysentery are uniform and homogenous in appearance. They are watery; of an earthy or dull yellow color and contain few or many particles of clear mucus. Undigested food is often seen. The reaction of dysenteric stools is generally alkaline which favors the growth of the ameba coli.

In amebic dysentery there is no positive way known by which a diagnosis can be made except by the use of the microscope. We have allowed the ameba to die and have stained these dead organisms by different methods and have compared their appearances with that of white blood corpuscles, degenerated connective tissue cells, etc., but the points of differentiation are not sufficiently pronounced to make one feel free from all doubt. When, however, the living mo-

tile ameba are seen there is no more doubt about the diagnosis. Of course, I am not taking into consideration the mooted question as to whether or not ameba are found in healthy individuals. It is my impression, however, that there is a lesion in the bowel that accounts for the presence of this organism at all times. However, I can see how it might be possible for the ameba to be found, as is sometimes the case, with other pathologic microscopic organisms.

The usual method employed in making examinations for the ameba is to have the stools passed into a warm bedpan which should be kept at a temperature of 30 to 25 C., until the microscopical search is made. The examination should be made as early as possible after the stool is passed. It is said by some observers that it should not be made later, under any circumstances, than two hours after the stool is passed. The portions of the discharge which have been looked upon as containing ameba in greatest abundance are in the bloody mucoid discharges, that is in the early diarrhoea. Later in the development of the disease the evacuations are less homogenous and the ameba are even more numerous but less evenly distributed in the discharges. In this stage of the diarrhoea the ameba are found in greatest numbers in the grayish yellow, gelatinous masses and also in the particles of clear and opaque mucus. In the shreddy masses of detritus the ameba are only occasionally found. In the homogenous discharges of chronic dysentery we can always expect to find the ameba more evenly distributed, but less numerous than in the bloody mucoid masses. We have observed that the ameba very considerably in numbers from day to day in stools of the same character.

It is interesting to note that Councilman and Lafleur report a case in which ameba were not found in the stools during life, though they were very numerous at the autopsy upon the examination of the intestinal contents. It is possible, so they state, that the supervention of diphtheritic inflammation in the intestine may account for the failure to find the ameba during life. Their explanation is that the ulcers are covered with the diphtheretic membrane which prohibits the escape of the ameba into the intestinal contents.

In the foregoing description I have mentioned the essential points that are observed ordinarily in making examinations of the stools when ameba are suspected of being present. In our examinations for ameba we never employ the method just described except in one instance to which I will refer in a short time. Since we have found ulcers present in the rectum and sigmoid in every

case of active amebic dysentery we do not resort to the examination of the stools, but on the contrary, we search for the organisms where they are in greatest abundance, that being in the ulcers or the diphtheritic deposits on their surfaces. When the patient is not under any kind of treatment we have never failed to find the ameba present when there were ulcerations found. Our technique is to place the patient in the Hanes' position and introduce a medium-sized 4-inch proctoscope. When the obturator is removed the ulcers or grayish white deposits are easily observed, either by a reflected light or a direct electric light secured on the end of the proctoscope. By the use of a small sharp curette, the ulcer is scraped and the collection put on a slide, then a hair is laid across the specimen and the cover glass applied. The most important point in the examination is that of keeping the specimen warm. In keeping the specimen warm the liquid in which the ameba moves is soon evaporated and you are examining a dry specimen. It is necessary then to add some kind of a fluid to keep the ameba floating. We have kept the ameba alive in this way for twelve or fourteen hours.

The only instance in which we examine the stools is in those cases where there has been a previous history of active amebic dysentery and, at the time when we see the case, is in the quiescent stage, and no ulcerations are present in the lower gut. It is very seldom, indeed, that ameba are ever found in such cases as those I have just mentioned.

These deductions have been arrived at after a careful research study in our own laboratory and I submit them to you with the firm belief that they are in the main correct, if not in every single particular.

TREATMENT OF CHRONIC AMEBIC DYSENTERY.*

BY GRANVILLE S. HANES, LOUISVILLE.

The fact that there are so many remedies and plans proposed for the treatment of amebic dysentery is argument sufficient to arouse suspicion against them all. It was originally believed that amebic dysentery was indigenous to tropical countries only, but more recent investigation has proven conclusively that it is also native to temperate climates. Since it is now known that this disease embraces much more extensive limits than was formerly supposed it is also true that the amount of interest in, and scientific study of amebic dysentery, is correspondingly

increasing. The amount of literature on this subject is increasing at a marvelously rapid rate. Many new ideas and arguments, pro and con, are being projected. The value of all of which, can be proven in no other way except by the elapse of time.

The following remarks relate chiefly to my own experience in the management of chronic amebic dysentery in our own climate.

First. The patient is put to bed in a properly appointed room for the sick. He is not required to remain constantly in bed but rest in the recumbent posture is the attitude that he should occupy chiefly.

Second. It is almost a universal practice to make the administration of a purgative the first step in the treatment of these cases. I seldom resort to such a measure. It is my opinion that the nausea, exhaustion, and general disturbance to the digestion that such a procedure precipitates is not justified by the results obtained. The object first sought is to rapidly increase the power of the patient's resistance. The practice above referred to is a step in the opposite direction. The poisons accumulated in the large gut can be much more effectively eliminated by irrigations and at the same time avoid the objections above referred to.

Third. Many patients affected with chronic amebic dysentery are very much emaciated. I have found that this condition is almost always due to an insufficient amount of food. It has long been customary to restrict the patient's diet to a poorly nutritious food in any form of diarrhoea. Where the diarrhoea is due to a disturbance in the stomach or small intestines, or both, such a procedure becomes necessary, but in amebic dysentery the large gut, in which we find the disease, is the portion of the tract affected; therefore, since the large gut plays but little part in the digestive process the element of dieting becomes of much less importance. And, again, in the treatment of amebic dysentery we are contending with the ravages of an actively infectious disease which demands that the patient's power of resistance shall be increased to the highest possible degree. I, therefore, give my patients liberal quantities of solid and nutritious foods. In the majority of cases the digestion is surprisingly good. Of course, in the matter of diet, each case must be more or less an individual one and if, for any reason, certain articles of food are difficult to digest they should be eliminated from the diet list. I have observed that every patient who is most emaciated is also the one who has practiced the most rigid dietary habits and all of whom were able to partake freely of solid foods when the

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opportunity was afforded them. I then feed my patients. The more food they are able to take the more promptly their recovery will be. The matter of diet can not be emphasized too much in the treatment of amebic dysentery.

Fourth. It is absolutely inhuman to withhold opium when patients can be so promptly and completely relieved by its use. The terrible pain, straining, and general exhaustion that it relieves is a thousand times more beneficial to the patient than the ill effect it produces. It is much better to give opium when necessary and overcome its constipating effects by small doses of salts or other purgatives. I usually control the patient's discomfort by the employment of opium suppositories. I have never found it necessary to resort to the use of opium after the second or third day. The irrigations that are begun at once relieves the patient's discomfort in a very short time.

Fifth. Internal medication is considered by many to be the most important feature in the treatment of amebic dysentery. The opinions of those who have had extensive experience in the management of amebic dysentery are divergent in the extreme. A certain drug may be looked upon as almost a specific by one clinician and the same remedy by another is considered of little or no value. Except one has had some personal experience in the treatment of this disease he can have but little conviction either way. Personally, I have but little faith in internal medication for the relief of amebic infection. There is so much, however, that is said in its favor we can not afford to cast aside such claims unnoticed. Ipecac occupies the most conspicuous position in the list of drugs proposed for internal treatment. I have employed it in mild and heroic doses in the treatment of some cases and in others I have omitted it entirely and yet my experience has not been sufficiently extensive to make me feel absolutely certain as to its merits. It is said upon good authority that all motile ameba disappear from the stools in a few days after the patient has been given large doses of ipecac. I have tried this plan of treatment and have never failed to find motile ameba when the rectal ulcers were scraped and microscopic examinations made. Notwithstanding the lack of unanimity of opinion with reference to the potency of various internal agents, I would recommend their employment in certain cases, at least. I offer this suggestion more on the grounds of general principles than for any specific reason. I expect to practice internal medication on occasional cases, at least, until more definite information has been obtained upon this subject. I never expect again to resort to the

administration of heroic doses; I believe such a custom to be absolutely pernicious. I am confident that we can expect more good to be had from the use of ipecac, bismuth, etc., in small doses. I have not, so far, been able to detect any difference in the progress of recovery in those who were given internal treatment and others to whom no internal medication was administered. I expect to be able to satisfy myself in regard to this matter in the future.

LOCAL TREATMENT.

Amebic dysentery is a local parasitic disease. It affects a part or all of the large gut. The lower ilium, it is claimed, may rarely become involved. The ideal plan of medication would be that of local application of an agent that would inhibit the activity and life of the germ. Local applications, especially to the upper limits of the colon, are difficult on account of its inaccessibility. This objection is very successfully overcome by doing enterostomy, cecostomy or appendicostomy. I shall refer again to these surgical procedures. So far as local agents are concerned none have proven satisfactory. There are many, when used in sufficient strength, that are promptly parasitical in their effects. They all have the objection, however, of being irritants to the mucous membrane of the gut. For this reason, they become more or less impotent agents as they are either quickly expelled from the bowel and, therefore, do not reach all the diseased surface or they are used in solutions of insufficient strength. The practice of attempting to convey liquids high into the colon by the use of soft rubber tubes with the patient in any position is absolutely ineffective and has proven harmful in some cases. I have proven by the introduction of tubes in the living body and also in the cadaver that they invariably coil upon themselves either in the rectum or sigmoid. In a paper read before the Jefferson County Medical Society and published in the JOURNAL, of last March, is an account of my experimentations with X-ray photographs showing the behavior of soft tubes upon attempting to introduce them into the colon. I stated then that tubes so used really contributed partly to the defeat of the purpose intended to be accomplished. Especially is this true in dysentery or any case where there is a pathology in the rectum or sigmoid. I never attempt, and have not for more than two years, to use any kind of soft tubes for the introduction of liquids into the colon. Patients affected with amebic dysentery can tell most horrible stories of suffering if attempts have been made to introduce colon tubes. I want to enter my plea against any practice of this kind. I am confident the custom would long since have

been abandoned if doctors had been the victims. After having been so thoroughly educated in the doctrine that soft tubes were essential to the successful introduction of solutions into the colon, it is with no little effort that we accept a statement which discredits the entire procedure. I sincerely hope some one will be so agitated as to make the experiment for himself. It is my opinion that liquids can be conveyed along the entire colon by the introduction of a tube just within the rectum and the liquid allowed to flow in slowly. When the patient feels uneasy and is disposed to expel the fluid the current should be cut off and so remain until the discomfort is relieved. This method is undoubtedly superior to that of forcing a long tube into the rectum with the result as stated above. While I believe that liquids can be forced around to the cecum in some cases by the method just described, I know the fluid does not come in contact with the entire mucous surface as it does in the plan I now propose to describe. Within the last year I have been practicing a new method in conveying fluids into the colon. By this plan the large gut is thoroughly distended with the solution and the discomfort of the patient is reduced to a minimum or is *nil*.

The patient is placed in the inverted position (Hanes' Position) as shown in cut No. 1, and a proctoscope six or eight inches in length is introduced into the rectum not more than three inches. Further introduction is liable to cause straining. A proctoscope of medium length is advised for the reason that the fluid is not so easily forced out through the instrument when gas escapes from the bowel. When the obturator is withdrawn the air rushes in and distends the rectum and the proximal portion of the sigmoid. The solution is poured into the rectum through the proctoscope. Between a quart and a pint is usually retained easily. The gas that is normally present in the large gut is now sufficiently condensed to begin its periodical escape through the proctoscope. When the column of fluid begins to well up into the proctoscope it signifies that gas is attempting to escape which it will readily do by bringing the proximal end of the proctoscope backward almost to a horizontal position. As soon as the gas escapes the fluid disappears from view and an additional quantity is poured in. The gas, when it appears again, is allowed to escape as above described and so the process is continued. I often have the patient breathe deeply and also manipulating the abdomen, aids in getting the fluid well around the colon. This procedure has revolutionized my former conception as to the amount of gas that may be contained in the large gut and

at the same time there is so little evidence of its presence upon abdominal examination. The same patient will have a great deal more gas when one treatment is given than at a succeeding time. Again, it is astonishing that the appearance of the abdomen is so little changed when large quantities of liquids have been poured into the gut. The explanation must be in the fact that, by this method, the gas escapes through the proctoscope and the liquid poured in distends the bowel to about the same or a slightly greater extent. It is a long story to tell all the unusual things that may happen with a patient inverted, with a proctoscope in his rectum and a fluid passing into the colon. By quick contraction of the abdominal muscles as would occur in the act of sneezing, laughing or coughing, the liquid may be forced through the proctoscope at a height of two or three feet. By placing the hand upon the abdomen in the left inferior quadrant and making quick pressure the fluid can be forced out through the proctoscope at a height of one foot or more above the anal opening. My face has more than once served as an obstructive object when these terrific regurgitations have taken place. No more solemnity prevails among the dead than when we are treating patients in this position; a convulsive laugh and both patient and doctor has a cosmopolitan shower bath. If the upper portion of the column of water, in the gut, is thus influenced the most dependent portion is likewise exposed to the same pressure which serves the purpose of forcing the liquid further around into the gut.

Amoeba are microscopic objects. They do not pitch their tents upon the most prominent folds of the gut, but on the contrary, they secrete themselves in every pocket, fold and depression found along its surface. If the walls of the bowels are not thoroughly distended, how can any local treatment be effective when the remedial agent has not come in contact with the entire diseased surface nor with the infective organisms contained therein? In irrigating after appendicostomies the mistake is made by some surgeons in hurrying the irrigation fluid through the colon by inserting a tube into the rectum for drainage purposes. If the gut is irritable smaller quantities should be used but with greater frequency. It will be only a short time until larger quantities can be tolerated. Notwithstanding the fact that I was confident of having passed liquids around to the cecum I felt that I did not know it. So I have made a number of experiments to verify my belief. I have measured the capacity of the rectum by inserting a soft rubber bulb just within the sigmoid and inflating it. The bulb obstructs the lumen of the gut and no fluid

can pass beyond it. The rectum is then filled with water to its fullest capacity. The water is then allowed to flow out of the rectum through a soft catheter or rectal tube. The average rectum will hold from twelve to eighteen ounces. In the cadaver, with all the large gut *in situ*, I injected five pints of water. In a case upon whom we did an appendicostomy, I injected coal oil through the rectum until it appeared at the appendiceal opening. In this way the gas escaped through the stump of the appendix as it was crowded along in advance of the water. The entire large gut in this case held four pints. If it is true that the gut, in average cases, holds only four or five pints then I have without doubt reached the cecum through the proctoscope. In the cases we often have reported by doctors where a gallon or more of water has been injected into the bowel, there must be an extensive relaxation of its walls which increases its capacity. At the same time, in such a relaxed condition, the fluid passes more easily into the small gut.

The solution employed in irrigating the large gut for amebic infection are too numerous to mention. Quinine, copper sulphate, silver nitrate, tannic acid and permanganate of potassium are those most frequently employed. They all have the objection of acting as irritants to the mucous membrane when used in sufficient strength to kill and arrest the development of the ameba.

For more than a year, I have been using ordinary commercial coal oil for this purpose. Its use was suggested to me on account of its deadly influence on parasite found on domestic animals. The crude petroleum also being used to prevent the development of mosquitoes. After experimenting with it for some time I was really surprised, myself, when I had proven that it was not irritating to the mucous membrane nor was it absorbed when retained in the gut for twenty-four hours, or even longer. Instead of its effect being that of an irritant it is a bland and acts as a sedative to the mucous surface. It will not only remain in the bowel for a long period, but the gut will tolerate larger quantities than it will of water or aqueous solutions of any kind.

I have experimented with coal oil and water on the same patients and they always retain larger quantities of the oil. Patients often remark, when they have a sense of heat or burning in the abdomen, that oil gives them relief. I have experimented with gasoline and benzine, but find they are irritating and cause a sense of uneasiness in the patient. I believe coal oil would be much better than water for cleansing the large gut in any case where there is irritation on the

mucous membrane. I have examined the urine after patients have had the oil treatment for weeks and have found no evidence of disease. Average patients will retain from three to five pints of coal oil at each treatment. I use coal oil in the treatment of all my amebic cases and sometimes in others and we have never had an untoward symptom to this date. Coal oil does not kill the ameba so quickly as various other solutions do, but it is more successfully conveyed to the entire surface of the gut and there remains for a sufficient time to render the habitat of the ameba intolerable.

I have treated thirty-six cases of amebic dysentery in the past eighteen months. I, at one time, entertained the belief that a real amebic infection could never be looked upon as being absolutely free from recurring attacks. I have abandoned this belief and it is now my opinion that many cases are cured in which the diagnosis was never known. If the infection is superficial and situated low in the gut and is of a very mild type it will yield to treatment with but little difficulty. If, on the contrary, the infection is severe and the disease is extensive in the upper limits of the large gut, the cure is exceedingly difficult and so far as we know, it may never be made permanent. I reserve the privilege to another change of opinion if further experience justifies it.

In the entire number of cases treated there was not one that did not show the infection in the rectum and sigmoid. While it is said that the cecum, hepatic and splenic flexures are the most frequent sites of disease I can not believe that this is true. If there is infection higher up in the gut it does seem reasonable that the sigmoid and rectum would also become infected when they are the receptacles that constantly retain the drainage from all diseased surfaces above.

In conclusion, I will say: Keep your patient at rest. Feed him liberally. Control pain and straining for the first day or two with opium suppositories. Do not give a purgative unless absolutely necessary. If you feel that you must give something by the mouth, let it be five grain tablets of demetized ipecac, or ten-grain doses of bismuth subnitrate. In severe infections, give a low irrigation of cold water night and morning. Use about one quart of water with a little quinine or tannic acid added. About three hours after the morning irrigation, invert the patient and pour into the rectum a half gallon or more of coal oil. The patient should remain quiet after this treatment in the recumbent posture and when he goes to the toilet he should pass no more of the oil than is necessary to give relief. This treatment then is continued until the stools be-



CUT NUMBER ONE.

come normal and the mucous membrane of the rectum and sigmoid have a healthy appearance. If the patient is not well or much improved in a period of four to eight



CUT NUMBER TWO.

weeks it is then necessary to consider the advisability of doing an appendicostomy. I am thoroughly convinced that cecostomies and appendicostomies should not be advised

until other methods, as described above, have been thoroughly practiced.

Cut No. 1 shows the position in which the patient is placed when the oil treatment is given.



CUT NUMBER THREE.

Cut No. 2 shows the soft rubber rectal tube coiled upon itself after having been introduced into the rectum.

Cut No. 3 shows a soft rubber rectal tube

coiled upon itself in the sigmoid. In this instance, the tube was carried by the rectal obstructions into the sigmoid through the sigmoidoscope.

DISCUSSION.

Lewis S. McMurtry, Louisville: I have had the good fortune to see a number of Dr. Hanes' patients and have followed his microscopic investigations with keen interest. Only those present who have listened to the paper carefully can appreciate the radical departure from accepted teachings made by the essayist. I regard Dr. Hanes' work upon this subject as one of the most important and original contributions made by any one to the subject. About one year ago Dr. George Dock, of Tulane University, New Orleans, read a paper in this room and stated that amebic dysentery is indigenous to this country as far north as Cincinnati. Previous to this time amebic dysentery was considered to be altogether a tropical or semi-tropical disease. It was accepted teaching that only imported cases were found in the United States, and usually among those who have visited the Philippines or Central or South America. Dr. Hanes has demonstrated beyond all question that the disease is indigenous generally throughout this country from Texas to Maine, and he has marked out a method of diagnosis and treatment which is most satisfactory and complete. During the past year, Dr. Hanes has studied more than forty cases of the disease, and traced their history carefully, a large proportion of the patients having never been out of this state. In other instances the patients had never been outside their own state, some of the states being as far north as Illinois, New York and Maine. This disease is prevailing generally over our country and in most instances is treated under the erroneous diagnosis of intestinal tuberculosis and malignant disease of the bowel.

An important part of Dr. Hanes' paper is that describing the position of complete inversion of the patient for rectal examination and known as "Hanes' position." This position is a great improvement upon all other positions for diagnosis and treatment of diseases of the lower bowel. Indeed this position is indispensable, and every practitioner should familiarize himself with its simple requirements. Another important disclosure of Dr. Hanes' experimental work is the uselessness of all attempts to reach the upper colon with a flexible rubber tube. I have fully covered this point in my own experience, finding a long time ago that the so-called "high enemata" were no higher than the ordinary low enemata. And finally I wish to congratulate Dr. Hanes upon his demonstration of the curative powers of petroleum as a local germicide in this disease. I regard this paper as an important original contribution to medical science, and one of great practical value.

Samuel Goodwin Gant, New York: This paper of Dr. Hanes is both timely and interesting. As regards the use of petroleum and coal oil and the great amount used by Dr. Hanes, I

would like to ask the Doctor whether he permits his patients to carry lighted matches or not. (Laughter.)

For years I have been treating a large number of patients suffering from loose bowel movements induced by dysentery, gonorrheal, syphilitic, tubercular or catarrhal ulceration by irrigation through the anus, cecum or the appendix and the results have been exceedingly gratifying. Until recently we believed that all patients suffering from dysentery must have become infected in some one of the tropical countries, but now we know that this disease is endemic and has been encountered in almost every state in the union. Formerly syphilis was considered the principal affection of the bowel and more especially of the rectum which caused the ulceration and obstruction and brought about diarrhea, but since the advent of the proctoscope and sigmoidoscope we have learned that the diseases already mentioned were, perhaps, the more frequent cause than lues.

It is true, as Dr. Hanes says, that in amebic dysentery the ameba usually attacks the large gut. This is equally true of all forms of ulcerative colitis but now and then the different types of infection, dysentery, tuberculosis, etc., have been observed in the bowel above the ileocecal valve.

Except where my patients are completely exhausted from the diarrhea, I prefer them to keep in the open air as much as possible during the treatment because, as a result of their auto-intoxication, they are despondent and need diversion, hence I do not keep them in the recumbent posture as advised by the essayist.

Diet and work are all right if one wishes to simply diminish the number of daily evacuations, but little if anything can be accomplished in this way so far as the curing of the patient is concerned. To be honest, I believe that the diet business is worked overtime and it is my practice to give the patient plenty of nourishing food because if any one needs it, this class of sufferers do, as most of them when seen have usually been starved more or less for months or years. I do not have the fear of potatoes or other starchy foods that some writers do, provided I am permitted to irrigate the bowel as often as I wish. When I have a patient who passes a large number of stools daily, I put him on a diet for one or two days of baked mealy potatoes and unsalted butter and irrigate the bowel with silver nitrate, 30 grains to the quart. Under such treatment the number of stools rapidly diminishes and the patient is then ready, if he is good, for steak, chops, roast beef and other food according as he is able to handle it.

I quite agree with Dr. Hanes that the only sensible way to treat amebic and other types of ulcerative diarrhea is by means of thorough ir-

rigation of the gut, when it can be done, and with the aid of surgical interference when it cannot be avoided. My results have been so satisfactory following appendicostomy and cecostomy for this purpose that I recommend these procedures just as readily for the cure of diarrhea as I do appendectomy for appendicitis.

I do not doubt that Dr. Hanes gets excellent results from coal oil treatment in this class of cases, because my experience has proven to my entire satisfaction that almost any fluid or solution, which can be made to reach the ulcers in all parts of the bowels, will overcome the most obstinate case of diarrhea. It would appear that the beneficial effects of the irrigation are due more to the mechanical action of the fluid in cleansing the bowel than to the chemical ingredients of the fluids employed.

I have reported elsewhere 39 cases of appendicostomy, 3 of appendiceal cecostomy, 9 colostomies and 14 cecostomies performed for the relief of diarrhea caused by ulcerative lesions of the colon and nearly all of these patients made a satisfactory recovery. Even after such operations, if the position of the patient is not changed from time to time during the irrigating process in order that the solution may reach all parts of the colon, the number of stools will be diminished but the patient will not make a complete recovery.

In regard to the position suggested by Dr. Hanes, I wish to say that I feel certain that one can easily and rapidly distend the colon, but I imagine that ladies would not relish being stood on their heads for this purpose and under such circumstances I should think it would be preferable to introduce the proctoscope up to the sigmoidal opening, introduce a colon tube and let the oil run through it with the patient in a more comfortable posture.

Carl Weidner, Louisville: I do not want to say anything which will minimize or detract from the original work that has been done by Dr. Hanes, nor do I dispute the remarks of Dr. McMurtry in showing us the fallibility of introducing any enema high up into the bowel. Furthermore, I do not want to say anything against the position in which Dr. Hanes puts these patients in examining the bowel, but there are one or two questions I would like to have answered. In the first place, whether Dr. Hanes recognizes a form of dysentery due to the Shiga bacillus. Second, whether he recognizes the different forms of amebae or not, as we have been taught heretofore, and are being taught at the present time since the investigations of Schaudinn. Schaudinn has described the ordinary colon ameba, which has its regular habitat in the upper part of the colon, which usually appears whenever the patient gets diarrhea. That form is the form known as the ameba histologica, or tropical dysentery. He

has differentiated these forms of dysentery.

Dr. Hanes has said nothing about the characteristics of staining or anything else in that line. I would like to have him answer these two questions.

The remarks of Dr. Gant suggested to me that his patients got well by feeding them something which caused constipation. Another thought which came to me was that possibly these organisms are less liable to live in a non-oxygenated medium than in an oxygenated medium, and that Dr. Hanes' good results in using coal oil are due to this agent.

A. B. Cock, Nashville: It requires an expert pathologist to answer the question asked by Dr. Weidner and I am not competent to do so. I am sure from my own observations of quite a number of these cases running well up into the thirties, that the ameba coli is the active pathogenic agent in the ulcerative type of colitis. I have seen, in which I have been able to demonstrate the presence of this organism. That leads me to comment on the most important point made in Dr. Hanes' paper, and that is the method by which the organism should be sought and demonstrated. Quite recently the mistake was made of having the mucus discharged from the bowel or the feces examined for the ameba, and because it was not found from such an examination, it was concluded that the case was not one of amebic infection. It is very essential to obtain scrapings from the lesions present that are produced by the organism, because we know, if we know anything, that the normal habitat of the ameba coli is the mucosa and not the mucous membrane. If they are found to exist in the discharge from the bowel they are there accidentally. If they are the actual cause of the lesion we can get them with a sharp curette through the proctoscope, scraping off the white pellicle that is seen, and using a cover glass over it at a temperature of 65 degrees. We will get them without difficulty in this way, if present.

Believing as I do that this is a local disease, that it is due to a local infection of the large bowel, I further believe that the use of the term "dysentery" in connection with it is more than unfortunate, because the average medical man's conception of the term "dysentery" immediately calls up a line of therapeutics which begins with calomel and salol, and goes through astringents and opium terminating with bismuth and ipecac. If this is a local infection or local disease it should be approached from an entirely different point of view, and the point I would make in that connection is that if we are to retain the term "dysentery" as applicable to this infection, we should understand definitely what we mean. We should no longer look upon it as an acute systemic constitutional disease, but a local ulcerative process involving the large

bowel primarily. If the small bowel is involved in this process it is more than probable that it is accidental.

The various points made by Dr. Hanes are extremely good. I have been interested for a number of years in the work he has been doing along this line, and since he has been publishing the results of his work within the last year. I have had absolutely no experience with the coal oil. I have had a great deal of experience with other forms of bowel trouble, but I have not seen a great many cases of amebic dysentery. I would like to make this point from my standpoint, that the most important thing in connection with the first aid to these afflicted patients is to recognize that the symptom from which they suffer most is rectal in origin and not colonic in origin. I refer to tenesmus. These patients have twelve or fifteen or even twenty-four calls to go to stool during twenty-four hours. Why? Not because there is a lesion in the cecum or the transverse colon, but because they have an inflammatory process involving the rectal mucosa. If that hypothesis is granted, "the first aid to the injured" in this type of cases is to relieve them of that symptom, and that is the simplest feature connected with the case. It is only necessary to clean off the mucosa of the rectum where the special causes of tenesmus largely reside, and cover over these ulcerations with their exposed nerve fibers, by some agent which will cause coagulation. In other words, nitrate of silver, 60 or 120 grains to the ounce, applied to the ulcer by means of a probang of cotton. One application of this kind will accomplish wonders, and a few applications will soon get the patient in a condition so that he will be able to spend his nights and days in comfort. When this is done he will not have more than two or three stools in a day, so that he can take nourishment, retain it, and can sleep at nights and will begin to improve. When the patient is put in this condition he begins to take the curative forms of treatment. This, you understand, is merely palliative in order to relieve the tenesmus. If it be true that in nine cases out of ten the invasion is localized in the cecum, then in a large proportion of cases we know that we are not going to be able to reach the lesions by any kind of irrigation through the anus, no matter what position we put the patient in. For that reason I think it is of the utmost importance that we try the method that has been outlined by Dr. Hanes. While it may not be pertinent to the discussion, yet it is of the utmost importance that in the management of these cases, if we can obtain access to the cecum directly without danger to the patient by

means of appendicostomy or cecostomy, we should do so, because in this way we can irrigate the large bowel from one end to the other.

G. S. Hanes, (closing): In the first place I wish to refer to the remarks made by Dr. Gant with reference to the use of any kind of irrigating solutions in these cases. It is acknowledged, I believe, by all that any solution for irrigation is effective if it can be brought in contact with the entire diseased surface of the gut, but it is here that we meet the difficulty; any aqueous solution will, when introduced into an ulcerated bowel cause more or less irritation, peristaltic contraction and return of the fluid. In such cases we find coal oil very desirable. I have proven by experimenting upon many patients that they will tolerate, often, twice the amount of coal oil that they will of any aqueous solution or simple plain water. For cleansing the bowel alone we find coal oil much better than water. Patients say that it is really soothing to the gut. As I have said before, coal oil can be conveyed much higher into the colon than any watery solution.

With reference to the remarks made by Dr. Weidner, I do not think we can answer his question intelligently. Whenever a man comes to us with dysentery, if in examining him we find ameba, we go to work and treat him without differentiating the particular form or species of ameba concerned in his case. If an occasional ameba is found in the stools or in the discharges, you had better be suspicious that there is amebic infection somewhere in the gut. I doubt very much if any of us think about the varieties of amebae that have been described in the literature when we have a case of dysentery. You take a man with an active amebic infection and examine the amebae, you will find they are large and full of red corpuscles. But if you examine these amebae every day, as the patient improves, they will become reduced in size and pale. As the disease is successfully treated the ameba become less numerous and finally disappear entirely.

Dr. Cook touched on an important point when he spoke of the tenesmus in these cases. When he said that the local disturbance is in the rectum he told the whole truth. The ulcers that are present in the lower gut are absolutely responsible for the tenesmus. If we treat these patients, as I have indicated, for six or eight weeks, or longer, and then find that we cannot bring about any improvement, I do not hesitate to resort to appendicostomy or cecostomy, by means of which we can irrigate the upper portion of the gut.

THE DIAGNOSIS AND TREATMENT OF GENERAL PERITONITIS.*

BY JOHN R. WATHEN, LOUISVILLE.

The term, general peritonitis, has been accepted to mean that small class of cases in which the entire peritoneal surface has become involved; while diffuse peritonitis has been restricted to those cases without adhesions and with a tendency to spreading, and with no reference to the extent of the involvement.

In discussing the diagnosis and the treatment, I will limit my remarks to the acute perforative type of diffuse peritonitis, one of the most important surgical diseases with which the operator has to deal, and one which causes more deaths than any other.

The diagnosis of acute perforative peritonitis of gastro-intestinal or appendical origin is usually not difficult in typical and well-developed cases, but to make an early diagnosis in typhoid perforations often requires the most careful observations.

Out of 51 cases collected by Moynihan, in only two was a correct diagnosis made previous to operation, and 19 were operated on for acute appendicitis.

The most frequent class of cases are those of appendicitis where operation has been delayed, and only after perforation has occurred is the patient referred to the surgeon. These cases most often give the history of a severe attack with a sudden cessation of pain and a decided drop in temperature; an apparent improvement in the patient's condition; only to be followed by a renewal of the pain accompanied with nausea and vomiting, a tender and rigid abdomen, and lastly collapse.

In gastric or duodenal perforation, there is usually a previous history of distress in this region for several days, with a sudden severe and burning pain at first localized over the seat of perforation, and later becoming more general.

The amount of abdominal rigidity and the character of the pulse is often a better indication of the severity of the infection than the degree of the temperature.

The greatest care is needed to detect typhoid perforations and unless the pulse and the abdomen are closely watched for this complication, it will be overlooked until too late to render the most service.

Following the sudden severe pain in gastric perforation, vomiting occurs in over 50 per cent. of the cases, but this vomiting is not usually repeated as it is in obstruction

or strangulation of the bowel. The stomach contents and air are forced out into the peritoneal cavity and by their presence seem to produce an effect on the sympathetic nerves, which results in a change in blood pressure—shock. Intense thirst is frequently present in gastro-intestinal perforations. The abdominal rigidity results from the reaction of these irritants on the peritoneum, and tenderness also appears.

The gases in the peritoneal cavity cause a lessening or an obliteration of the normal liver dullness. Deaver says that, "If free air be present in the peritoneal cavity under even slight pressure, it may be detected by means of the coin test so frequently used in the diagnosis of pneumothorax. If one coin be placed on the abdominal wall and struck by another coin, the presence of air within the abdominal cavity will be revealed by a clear metallic sound distinctly heard through a stethoscope, or by the ear held on the abdominal wall near the coin. If the area of metallic sound be not circumscribed, as it would be if the air were within the stomach or a portion of the intestinal tract, free air within the peritoneal cavity can be diagnosed, and this sign is claimed by many to be pathognomonic of perforation of the gastro-intestinal tract."

A differential count of the leukocytes is an aid to diagnosis, and whenever possible or convenient should be made. It has been said that, "The increase in the relative number of polynuclear cells is an indication of the virulence of the intoxication, and the degree of leukocytosis is an evidence of the body resistance toward infection. * * * Purulent infections were rarely, if ever, present with low polynuclear percentages, irrespective of the height of the leukocyte count, while very high polynuclear percentages indicated their presence even if the total leukocyte count was low."

In men, duodenal ulcers are more frequently the cause of the perforation, while in young anaemic women, we find the gastric type. The order of frequency of perforations of the gastro-intestinal tract are usually the appendix, the ileum, the stomach and lastly the duodenum.

The diagnosis and the differential diagnosis of peritonitis as in many other surgical diseases of the abdomen, is often best made by an early exploratory incision; and much valuable time has been lost waiting for a well developed case of diffuse suppurative peritonitis before a conclusion is reached, when timely operation would have cured the case later has become almost hopeless.

The treatment of the so-called general or diffuse peritonitis has, in recent years, undergone many changes, due largely to a bet-

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ter understanding of the physiology and the pathology of the peritoneum. The immense amount of experimental work in laboratories and the clinical data collected from large hospitals has paved the way for a very great reduction in the mortality of this disease.

From the early cases collected by Von Mikulicz with a mortality of 97 per cent. to those recently reported by Murphy of 50 cases with but two deaths, and these not directly attributed to this disease, as one died of a double pneumonia on the sixth day, and "the second from a mechanic ileus and strangulation of the intestine around the omentum, which was adherent to an old hernial opening."

The basic principle in the modern treatment is the prevention or the retardation of absorption of septic material. This is accomplished first and most important, by the Fowler position before and after the operation, and even until convalescence is well advanced, and secondly by opening the abdomen to relieve the tension, which so greatly favors this absorption.

Ochsner has called attention to the avoidance of food or drink by the stomach, and the application of cold to the abdomen, thus preventing peristalsis and in this way lessening the diffusion of the infective material over the peritoneal surface.

The administration of small doses of morphia to further quiet the peristalsis and the restlessness of the patient is still a mooted question.

All are agreed that a rapid operation with a closure of the point or points of leakage is the thing most desired. This closure should be accomplished by the simplest, most rapid and safest method and provided with abundant drainage, for fear of an imperfect stoppage of the leak.

This drainage should consist preferably of fenestrated soft rubber tubes and loose gauze packings.

It seems now to be the consensus of opinion of the most successful operators, that the less we manipulate, wash out or handle the intestines, the better are the patient's chances for recovery.

The post-operative treatment consists of introducing continuously, saline solution per rectum—proctoclysis or enteroclysis. Murphy to whom is given the credit of introducing this important method, claims that it is seldom correctly given, and describes his method as follows: "The fluid should be administered through a fountain syringe to which is attached a hard rubber or glass vaginal douche tip with multiple openings. The tube should be flexed almost to right angles three inches from its tip. A straight tube

should not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the Fowler position. The tube is inserted in the rectum to the flexion angle and secured in place by adhesive strips, binding it to the side of the thigh so that it cannot come out; the rubber tubing is placed under the bedding to the head or foot of the bed, to which the fountain is attached. It should be suspended from 6-14 inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure, i. e., it must be just high enough to require from 40 to 60 minutes for 1 1-2 pints to flow in, the usual quantity given every two hours. The flow must be controlled by gravity alone, and never by a forceps or constriction on the tube, so that when the patient endeavors to void platys or strain, the fluid can rapidly flow back into the can, otherwise it will be discharged in the bed. It is this ease of flow to and from the bowel that insures against over-distension and expulsion on the linen. The fountain had better be a glass or graded can, so that the flow can be estimated. The temperature of the water in the fountain can be maintained at 100 degrees by encasement in hot water bags. The fountain is re-filled every two hours with 1 1-2 to 2 pints of solution. The tube should not be removed from the rectum for two or three days. When the nurse complains that the solution is not being retained, it is certain it is not being properly given; many children tolerate proctoclysis surprisingly well."

THE ETIOLOGY AND PATHOLOGY OF THE VARIOUS TOXEMIAS OF PREGNANCY.*

BY WILLIAM A. JENKINS, LOUISVILLE.

INTRODUCTION.

The various toxemias which are prone to occur during the pregnant state (including the pre-eclampsic and eclampsic phenomena) have aroused the interest and fixed the attention of medical men for ages; in fact, the subject is as old as the Science of Obstetrics itself. The earliest attempt at a solution of these intricate and little understood problems however, were crude and unsatisfactory, from the standpoint of practical results; for example, in looking up the history of the subject, we find some of the early English observers (scientific and reputable men) expressing the opinion that eclampsia occurring in pregnancy, was analogous to,

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and practically the same thing as an apoplectic stroke (such as would occur in a plethoric old man, 65 or 70 years of age, with degenerated arteries). This, and other theories equally wide of the mark and unsatisfactory, in so far as meeting the conditions of the problem are concerned, were propounded. Thanks to the careful observations and investigations of many men along many lines, we are now in possession of some more definite data. Much remains to be learned about this subject, and the whole matter may be said to be, in a measure at least, still sub-judice.

It shall be our endeavor then, in this paper, to bring together, correlate and classify the facts obtainable at the present time; to carefully consider the etiology and to discuss the pathogenesis of the various toxemias of pregnancy; and finally, if possible, to deduce conclusions therefrom which shall be of practical value to us in the understanding and management of these cases as we meet them in practice.

ETIOLOGY.

The various sources from whence poisonous material may emanate and the perversions of function, which are induced by said poisons, have all, at one time or another, been blamed to a certain degree at least with the trouble, and consequently have figured as etiological factors in the causation of the various toxemias of pregnancy. They are: The placenta, the amniotic fluid, the foetus, bacteria, the nervous hypothesis, disease of or deficiency of the parathyroid bodies, the suprarenal glands, the blood, and the metabolic theory (including the discussion of the liberation and action of cellular cytolytins and enzymes.) We shall consider them seriatim.

The Placenta. Careful experiments have been made to determine the toxic power of the placenta in eclamptic cases. Glycerine extracts of the placenta (carefully prepared and of definite strength) have been injected into guinea pigs and rabbits and the results noted; convulsions and other toxic manifestations can undoubtedly be produced in this way. Emulsions and other test preparations of the placenta will also produce the same results. It seems that it is now thought to be quite possible for the Syncytial cells from the placenta to be dissolved by cytolytic processes and taken into the circulation of the mother where the Syncytial toxin is liberated. Now, under normal circumstances, this toxin is destroyed by the active protective mechanism of the body, viz: the anti-bodies formed by the blood; but, if they are thrown into the blood faster than the circulation can

handle them, systemic saturation and toxemia result.

The Amniotic Fluid. That the amniotic fluid in eclamptic cases is toxic was definitely proven by the careful experiments of Albeck and Lohse. These observers took the amniotic fluid of eclamptic patients and injected it into suitable animals and produced convulsions and death. Then they held post mortems and found lesions in the liver similar to lesions in the liver of women who had died of eclampsia.

The Foetus. Toxic material is also found in the foetus. But that the foetus is not entirely responsible is conclusively proven by the fact that observers have found eclamptic phenomena in a woman presenting an hydatidiform mole. This finding would, of course, exclude or rule out foetal contamination, as the sole cause of eclampsia.

Bacteria. Bacteria can not be seriously considered, because no agent has ever been isolated that meets Koch's laws. No micro-organism has ever been found as a constant accompaniment of these toxemias. The gross clinical symptoms are not analogous to the clinical symptoms which accompany well known bacterial invasions, and the toxemias do not occur in epidemics.

The Nervous Hypothesis. Briefly stated, the nervous theory is as follows: The nervous system was supposed to be, for some unexplained reason, in a state of hyperexcitability and when this unknown agent reacted too strongly on the highly organized nerve centres, convulsive phenomena occurred. Thus, the condition was accounted for. We now know positively that the convulsions are a result of the toxemia, and not its cause.

Diseases or Deficiency of the Parathyroid Bodies. The evidence along this line is rather indirect or inferential in character. In cases where disease of the parathyroids was known to exist, it has been noted that eclamptic phenomena were more prone to occur. This matter involves the question under discussion, is then problematical and doubtful. This same argument also applies to the *suprarenal bodies* as a possible factor in producing the class of toxemias under discussion. Chirie studied the condition of these bodies in a series of twenty-eight post-mortems, this included some cases of eclampsia and nephritis of pregnancy. The specimens obtained from women who died of eclampsia, accompanied by nephritis, showed a condition of hyperplasia of the cortex of the suprarenals, and in some instances, hyperplasia of the medullary substance was noted. Chirie thought these cortical lesions pointed toward, and bore a direct relation to an antitoxic function of these bodies. This may be true

in a measure, but even if this anti-toxic power exists, it is perhaps so closely connected with the angiotonic functions of these bodies that it is impossible for us to get at the matter properly yet. And again, where the suprarenals were found diseased, the kidneys had undergone such extensive changes that the observers were justified in the conclusion that the changes found in the suprarenals were secondary to the kidney condition.

The Blood. The blood during pregnancy is richer in chlorides than normal. This we know, promotes metabolism; the arterial tension is high, the capillary circulation is sluggish. Dinst reports that on cryoscopic examination of the blood, retention of poisonous materials in the blood (albuminoid in character) was noted; controlled injections of blood serum produces toxic manifestations in other animals—most assuredly then the blood is highly toxic.

The Metabolic Theory. Perhaps the wide range of discussion and the variety of sources from which this toxic material may be derived, as well as its biochemical nature, has already suggested to our minds the thought that perversion of metabolic processes will meet satisfactorily all the requirements of the problem. Let us then examine closely and in detail the possibilities along this line, viz: (a) The nature of the toxic material derived from the entire uterine content (placenta, foetus and amniotic fluid.) (b) The nature of the toxic material which exists in the organs, tissue and blood of the mother. (c) Toxic material produced by an abnormal activity of normal elements. (d) The clinical and therapeutic evidence of the metabolic theory.

First. The nature of the toxic material derived from the entire uterine content. That toxic material can originate in the placenta, the amniotic fluid and even in the foetus, there can be no doubt, as shown above. Yet, if the protective mechanisms of the mother are in their integrity no trouble arises, for the toxic material is destroyed by the antibodies of the blood, or is transformed by the activities of the blood, liver and kidneys into substances relatively less harmful, which are then promptly eliminated. Positively then, as long as these native protective mechanisms are in their normal integrity, toxemia is impossible. These protective mechanisms have normally the power of destroying, oxidizing and combatting these toxins, or in other words, metabolizing them. The protective forces then, must be broken down or rendered helpless before anything can happen. Hence, we say "imperfect metabolism." But you ask, why some have it and others do not? The explanation is the

same—the normal protective mechanisms are defective or crippled, consequently they are the more rapidly overcome in certain cases. Material obtained from the uterine content in normal pregnancies are toxic when injected into test animals (not of course to the same extent as that of eclamptic cases) yet the mother handles these products. Now, case into an eclamptic case, is to have a deficiency on the part of the hepatic, blood or renal functions of the mother—this added burden produces toxemia. We say then, so far as the uterine content is concerned—"perverted metabolism."

Second. Toxic material from the mother. The brilliant researches of Blouchard and others have shown us very clearly how an organism may poison itself. This subject is now a matter of medical history, and every doctor sees almost daily some very ugly cases of self-poisoning or auto-intoxication—diseases of metabolism we now call them—and the list is a long and an interesting one. The study of the blood, and all the secretions and excretions, the study of normal hepatic and renal activity throw much light on our subject. In eclamptic women the fluids and tissues of the body are clogged and loaded with retrograde metabolic products. The blood as shown above is embarrassed by having to carry an excess of this same type of debris. Careful and frequent examination of the urine, gives evidence of metabolic perversion, e.g., the presence of certain acids, a disturbed nitrogen ratio (as shown by the urea and ammonia-nitrogen tests) and perhaps the presence of albumin. Such measures as the Straus levulose test furnishes ample evidence that the liver is not doing its work properly. It is even claimed by laboratory men that they can, by blood experiments, by the nitrogen test for the kidneys, and by the levulose test for the liver activity, predict ahead of time the appearance of eclamptic phenomena with almost dramatic exactness. On the other hand, if they can keep the system clean and make the blood, liver and kidneys perform up to the normal standard (as shown by tests) no toxemia occurs. Evidently then, it is a perversion of metabolism. But, someone says, "The toxemias are necessarily and primarily the effects of the pregnancy on the organism." In a sense that is true. It is likewise equally true, that if the protective agencies of the mother are absolutely in their integrity and are kept there, toxemia is impossible. Hence, we see that there is an intimate interrelation existing between and an interaction on the part of these two factors whereby the one assists the other in producing toxic effects. And it is at bottom but one process.

Third. Abnormal activity of normal ele-

ments, or (The transformation of normal into actively abnormal elements.) The scientific researches of such men as Wright, Metchnikoff and Ehrlich have added so greatly to our knowledge that they have almost completely reconstructed our conception as regards the question of how the human body disposes of poisonous or harmful material, no matter whether said material is generated within the body or comes from without. First, we learned that certain systemic debris (derived in part from excessive intake of nutriment over and above what the system can use, and in part from tissue waste from all parts of the body) was constantly being oxidized or burned up and eliminated by the accessory glands, gastrointestinal tract, liver, kidneys, blood, etc., and that if this process was interfered with, toxic manifestations appeared; secondly, we learned that the blood contained certain distinct antibodies which possessed the power of uniting with definite toxins and destroying them. Clinical experience teaches us that if we keep number one active, we increase the efficiency of number two. After a time the system is saturated with debris, the valency of all the antibodies of the blood are satisfied and the impoverished blood is no longer capable of manufacturing fresh antibodies. The toxins, no matter what the source, are now at liberty to attack the blood cells and the highly organized cells of certain special organs, viz: liver, kidneys, etc.; fusion and agglutination of red blood cells takes place in irregular and partially dissolved clumps. General hemolysis ensues, a solution of the endothelium of the blood vessels sometimes occurs with the possible formation of small emboli. Highly organized cells, e. g., those of the liver and other organs become affected, cytotoxicity is rapidly going on. As the cells break down highly organized substances, perhaps of the nature of enzymes (which under normal circumstances have the power of regulating cellular nutrition) are liberated, and in their abnormal state they may attack and even destroy tissue.

Fourth. The clinical and therapeutic evidence of the metabolic theory. We noted above that it was possible by scientific and careful interrogation of the blood, the liver and the kidneys to accurately predict the approach of eclampsia. As internists, we here make the statement that the clinical symptoms furnish us evidence equally reliable in foretelling the approach of danger. If a pregnant woman who has been doing nicely suddenly begins to complain of momentary blind spells, dizziness, severe headache and neuralgia, altered nervous state, persistent nausea and vomiting, bloating, dis-

turbed digestion, diminished excreta, constipation, high tension pulse, sense of constriction of the chest, aching of limbs and muscles, a tired feeling, swelling of hands and feet—all, or any combination of these symptoms that tend to gradually get worse—speak quite as emphatically as the laboratory findings do. We readily recognize the above as evidence of retrograde metabolism. And this conclusion is proven by the therapeutic test, for in any case, if we take hold promptly and secure *enforced rest, restricted diet, and thorough elimination*, in the majority of instances, the symptoms clear up, the patient improves and the toxemia disappears.

PATHOLOGY.

The detailed consideration given above of the etiological factors of the toxemias of pregnancy blazes the path for us and outlines with more or less distinctness the exact pathological changes which are prone to take place.

The pathogenesis of the group of conditions under consideration is, in true, an entity, the various steps or phases of which are so naturally and intimately connected that they should not in the abstract at least, be separated; hence, for the purposes of presentation and discussion we shall make a provisional classification of the subject into three divisions:

First. That group of cases milder in character, in which there is present every evidence of a systemic saturation due to the accumulation of certain retrograde products of metabolism, without demonstrable organic changes.

Second. That group in which the above picture of saturation persists and deepens, the strain is too great, a breakdown occurs at one or more points and organic changes are found e. g., in the liver or kidneys.

Third. The rapidly fatal type with marked and extensive organic changes primarily in the liver, next in the kidneys and after that in the blood, spleen, brain and various other organs and tissue of the body.

In the first class the blood is loaded with metabolic debris, and has an excess of chlorides. The liver is stagnant, doing its work very poorly, unoxidized products are passing through it, glycosuria is easily induced (as shown by the Straus levulose test.) The kidneys are embarrassed, albumin is present, nitrogen compounds are not properly eliminated, no organic changes occur; but there are present such clinical symptoms as sudden momentary blind spells, dizziness, headaches, an altered nervous state, persistent nausea and vomiting, bloating, disturbed digestion, diminished excreta, constipation, etc., in fact the whole group of phenomena mentioned un-

der the head of clinical evidence of perverted metabolism may be present. Exacerbations and remissions are prone to occur during the period of gestation, or the same phenomena may show up with each recurring pregnancy.

Of all the cases of pregnancy encountered the physician many, and perhaps the majority, have first or last enough of the above symptoms to permit them to be grouped in this first class. Any member of Class 1 is a candidate for the Second Class, and if the symptoms progress without relief to the point where the limit of tolerance is reached, the system overwhelmed, and nature loses her power of resisting toxic material. Haemolytic and cytolytic changes now commence, some destruction and degeneration of hepatic cells takes place, the kidneys soon participate and you may perhaps have a type of desquamative or tubular nephritis. Now depending on the constitution, the resistive capacity of the individual, and the treatment the case may drag along, even where convulsions are present, until the woman is delivered, when a slow return to health occurs with finally perhaps a complete re-epithelialization of the kidneys and no further trouble, or, permanent changes may take place in the kidneys and liver, which leaves these organs impaired for life. All the recoverable cases then we would place in the Second Class.

Class Third is the result of the unchecked or uncontrolled second stage, and there is always present the possibility of every case belonging legitimately in the Second Class becoming a Third Class case. Under this head we consider all fatal cases, cases with marked and massive organic changes. The early evolution or behavior, and the initial pathological changes are as described above. From the standpoint of time the process may be short and rapid, or prolonged. The liver is perhaps the first organ to be affected on account of its importance to metabolism, the wide range of its functions, and the complex physiological power of its highly organized cells. In the liver there is less glycogen, more pigment, and a dilated, stagnant, sluggish condition of the capillaries; the liver cells become swollen, the protoplasm is cloudy, the cell loses its outlines and becomes indistinct; there is rapid degeneration and destruction of liver cells with extensive infiltration of granular and fatty debris; small hemorrhages take place beneath the capsule and throughout the organ.

Formerly, certain observers taught that in pernicious toxemic vomiting and acute yellow atrophy (occurring in the pregnant state) the necrosis had its beginning in the centre of the lobule, and, on the other hand, in eclampsia the beginning of the necrosis

was found at the periphery. This opinion gained such ground that an attempt was made to use it as a basis for the classification of the types of toxemia. On account, however, of the similarity of results obtained from chemical analysis of the products of metabolism taken from the blood, liver and kidneys of both types of cases, the attempt was abandoned and most recent observers of wide post mortem experience along this particular line, deny the validity of the statement regarding the distribution of the pathological changes, stating it as their observation that the areas of degeneration are very irregularly distributed regardless of type.

In passing we might note the fact that the pathological changes which occur in the liver in such conditions as poisoning by phosphorus, chloroform, ether, mushrooms, yellow fever and even surgical sepsis, are relatively of the same order as those found in the fatal toxemias of pregnancy.

The kidneys are next involved. Here, as in the case of the liver, evidences of functional distress are followed by organic changes; the presence of concentrated toxins, albuminuria and congestion finally leads to changes of those parts which are most highly organized, and have the most delicate and complex functions to perform, viz: the Malpighian tufts. Formerly many German observers claimed that the kidneys were chiefly at fault. This theory may be partly explained by the fact that the kidneys give symptoms of such character that they are the more readily observed, e. g., puffiness and swelling of the face and feet, anaemia of the mucous membranes, lessened quantity of and the macroscopic appearance of the urine; and again, the condition of the kidneys as regards function, is much more easily determined by laboratory methods than is the function of the liver; of some importance also is the fact that medical men are taught to watch for kidney deficiencies and taught how to detect them, they are on the lookout for them, while very little is said about the liver. The relation of the liver to the content of the gastrointestinal tract, or in other words, its primary importance in general body metabolism, leads us to the belief that the kidney changes (if the kidneys were sound at the start) not only occur secondarily, but are really for the most part caused by the changes in the liver. The amount and character of the kidney involvement will vary. Most commonly we find as above described, a glomerulonephritis, very like that found in scarlet fever. In some instances death occurs with very little change in the kidneys. Again, if the kidneys were previously diseased, or, if the process is long and draggy, the interstitial tissue may be in-

filtrated and the blood vessels thickened, in fact a chronic nephritis.

Secondarily, changes occur in other tissues and organs of the body; a process of rapid hemolysis takes place in the blood, with clumping, agglutination, and solution of the red cells. Solution of the endothelial lining of the blood vessels occurs with the formation possibly of small emboli. The spleen, pancreas, and lungs are often congested and may show areas of necrosis. The brain may be congested or even oedematous. (Some observers mention an anaemic condition of the brain.) Hemorrhage or apoplexy is a possibility.

CONCLUSIONS.

By way of a brief recapitulation we deduce the following conclusions:

First. That all the disturbances that occur during and are induced by the pregnant state, whether mild or severe, eclamptic or pre-eclamptic, acute or chronic, whether organic or functional, whether one or many organs are involved, all, are of the same nature and should for the purposes of classification come under the general head of the Toxemias of Pregnancy.

Second. That while poisons have been proven to come from many sources, no special or specific toxin can be found to account for these cases (unless it be the intracellular enzymes mentioned above), and, that while from a clinical standpoint, these cases are apparently exceedingly dissimilar in character, yet careful and exhaustive biochemical and laboratory examinations tend to demonstrate very conclusively that the same primary changes underlie every case and the differences is one of degree and not of kind. Therefore, when discussing the etiology of this question it is best simply to say "Perversions of metabolism."

Third. That in all cases, in the beginning at least, the change is one of function, later organic changes take place—first in the liver, next in the kidneys, and secondarily, in the spleen, brain, lungs and other organs and tissue of the body.

Method of Opening Bladder or Ureter Through the Vagina.—Rochet has opened up the bladder or ureter in three cases by a simple vaginal technic which excludes the possibility of development of a fistula while it allows ample access for extraction of a calculus or for other intervention. About 1 cm. back of the mouth of the urethra and below, a transverse incision, about 3.5 cm. long, is made through the vaginal mucosa is worked free from the urethra above and then from the bladder. This mobilization of the mucosa is easily done, and it then can be pushed back to permit ample access to the bladder and ureter.—Lyon Medical.

TREATMENT OF THE TOXAEMIA OF PREGNANCY.*

BY EDWARD SPEIDEL, LOUISVILLE.

It is a waste of time, to discuss a prophylactic treatment of the Toxaemia of Pregnancy, as long as two conditions related to the practice of obstetrics continue.

The first issue is largely ignored in discussing the subject and yet, to my mind, it is the more important of the two, and that is the customary continuance of sexual relations with the pregnant woman often up to the very day of delivery. It must be evident to every thinking man, that such practices must interfere with the safe progress of a pregnancy, even under ordinary circumstances. How much more of a factor must they then become, when abnormal conditions are present.

Under ordinary circumstances, the physician has practically no control over such occurrences, his opinion generally is neither asked nor desired. It should become a fixed rule, however, that the moment that a pregnant woman, no matter what the stage of gestation, applies for treatment, due to her condition, then the physician's first demand should be a cessation of sexual relations, a separate bed for the woman and if possible, a separate room. The writer considers this the most important step in the prophylactic treatment of any abnormal condition that arises in pregnancy and especially of toxæmia.

And now, as to the second issue, it is useless to enter into a long discussion as to the manner in which a pregnant woman can be safely guided through the long period that intervenes between the beginning of a pregnancy, until the time of safe delivery, if the physician's compensation for all this care and attention is not even to be equal to the ordinary fee obtained without question, for amputating a toe. In other words, as long as the practice of obstetrics, unlike any other branch of medicine, remains on the bargain counter and a woman is delivered for a definite meager sum, regardless of the amount of attention she should receive, so long will it continue to be the custom to give her even less attention than she is really entitled to by the meager fee offered.

Aside from mercenary considerations, it is only a matter of common sense to state that as soon as women are educated up to the necessity of proper attention during pregnancy, then the physician will brush up on those chapters on the Hygiene of Pregnancy.

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which may be found in every text book of Obstetrics and which constitute the prophylactic treatment of Toxaemia. That this does not apply to people in destitute circumstances, goes without question.

Under favorable circumstances then, a multipara should be in charge of her physician, from the sixth month and a primipara from the third month of gestation. Even before that time, the primipara may derive some relief in the period of nausea and vomiting, by intelligent directions of the attending physician, whilst he may at times detect early signs and even ward off the pernicious form. Thereafter the conduct of the case consists in a careful regulation of the diet, especially in the last two months of gestation, proper advice in regards to exercise and clothing, avoidance of constipation, but most of all, attention to the action of the kidneys. Such attention consists of advice to the patient to observe the frequency of micturition and the quantity of urine passed daily and on the part of the physician, of routine examination of the urine at definite intervals after the sixth month. And now as to the curative treatment.

If the points recently brought out by Skeel in his excellent paper on the subject of the Toxaemia of Pregnancy, are confirmed by later investigations, then we will at least have something definite upon which to base our therapy and the toxaemias of pregnancy need no longer be treated in the haphazard empirical manner that has been the custom in the past. Again, if the two conditions, Hyperemesis Gravidarum and Eclampsia present such pathological findings, that they may be considered as early and late manifestations of the same process, then our treatment again narrows itself down to the elimination of the toxic agent that is common to them both.

With the first condition, Hyperemesis Gravidarum, we still have to differentiate between the neurotic and the toxic form and here again it must be admitted that the former is but a forerunner of the latter.

It is claimed, for instance, that the pregnant uterus produces an irritation of the abdominal sympathetic nerves and that this irritation brings about such a change in the metabolism of the gastro-intestinal tract, that toxic products causing this form of toxaemia are produced and absorbed.

Therefore, hyperemesis in all instances, is at first a reflex neurosis, then if not controlled, the neurosis interferes with the function of the liver and kidneys, the result of which is retention of pregnancy products and eventual fatal intoxication.

It may be safely asserted, that the neurotic form will often respond to the palliative

measures that have been used effectively in its treatment for years, but when the condition becomes toxic, the drastic measures must at once be resorted to. It has been the custom in the past, to defer interruption of the pregnancy as a cure for Hyperemesis, until the very last, and as a general thing when then resorted to, it was too late to save the life of the patient. Now according to Skeel, definite signs are at our command from which we can make an early diagnosis and when such signs are present, we are justified in acting promptly and without hesitation.

With the knowledge that the pregnant woman ordinarily has a blood pressure not exceeding 150 M. M., and that in toxaemia, it goes to 160 and 180 M. M., and that under such circumstances the eyes present a retinitis that is absolutely diagnostic of severe toxaemia, then with such evidence we are justified in a resort to radical measures.

In the beginning, hyperemesis should be treated as a neurosis, as a more or less hysterical condition, complicated by pregnancy. In this condition more than in any other, isolation of the patient and mental and bodily rest must be insisted upon. The presence of the husband especially in the sick room must not be tolerated as it may rightly be supposed that his caresses will excite the very sensations that it is best to keep in abeyance. His banishment from the presence of the patient and the promise of his admission as soon as the patient improves, may often be used in addition to other suggestions to hasten a cure.

A careful examination must, of course, be made at once to discover any abnormalities of the genital organs of the patient, that may account for the vomiting, a retroverted uterus, or some pelvic tumor and proper measures used for their correction, in the case of the retroversion, by replacing the uterus and inserting a well-fitting pessary, with the pelvic tumor, removing it by operation if indicated, as can be readily done by modern methods, without interrupting the pregnancy. In addition to absolute rest in bed with the use of the bed pan for micturition and defecation, absolute rest for the stomach is indicated until it becomes more tolerant. Gastric lavage should be resorted to first of all however, to empty it completely of any offending matter and thereafter neither food, medicine nor water should be administered by mouth, until the vomiting is under control. Predigested foods, diluted should be introduced into the rectum at proper intervals and most important of all, normal saline solution, and in order to keep abreast of the times, and because the psychic effects of such manipulations is often an important factor in the

cure, therefore, the normal saline solution should be administered by continuous enteroclysis by the drop method. The apparatus for this purpose¹ has been so simplified of late, that the method can be practiced in the ordinary household, a lighted electric bulb slipped into the normal saline contained in a fountain syringe answering every purpose in keeping the solution at a proper temperature. In addition to this, the hypodermic injection of 1-4 grain of Cocain mur. in the epigastric region several times a day and friction at the sides of the spinous process of the dorsal vertebrae with equal parts of Methyl. salicylate and chloroform will be found of some service.

If the patient is very restless at times, then it is better to resort to the rectal administration of Pot. Bromide, 30 grs. and Chloral, 15 grs. than to use Morphine hypodermically, which will interfere with intestinal secretion. In some instances, it is even necessary to keep the patient under the influence of the Bromide and Chloral continually until the condition improves.

In treating these cases by rectum, it must be remembered, however, that it is only a temporary procedure that can not with safety to the patient be continued for more than a week. Even before that time if the condition improves and the stomach becomes tolerant, then small quantities of predigested food should be carefully administered by mouth. It is then that proper medication by the mouth can also be resumed and there Nitrate of Silver in 1-6 gr. doses every six hours, is highly recommended in the beginning. Later on, combinations of Cerium Oxalate and Bismuth with small doses of Cocaine will prove effective, but at no time should the medication be pushed to the detriment of careful feeding.

In the further conduct of the case, and especially if there is no early indication of improvement, the blood pressure should be estimated with a sphygmomanometer, and if found to indicate toxæmia by showing a pressure above 160 M. M. then the eyes of the patient should at once be examined with the ophthalmoscope and if there are any evidences of the retinitis of pregnancy, then the pregnancy should be interrupted at once, to save the eyesight and even the life of the patient. That there is sufficient authority for this extreme measure, when these symptoms present themselves, may readily be confirmed by an examination of the literature on this subject in the last year, both from the standpoint of the Obstetrician and the Oculist.

It is understood, that the pre-eclamptic

state, the later manifestation of the toxæmia of pregnancy, is purely a toxic condition, although the exact nature of the poison circulating in the blood, has not been definitely established.

The condition shows itself most frequently by the presence of albumen and casts in the urine, which is deficient in quantity and the gravity of the condition is generally based upon the increase of albumen with the diminution in the quantity of urine passed.

An increase in blood pressure above the normal 150 M. M. with the retinal symptoms present in the early toxæmia, will give us a basis for treatment and serve as a warning signal in the occasional case that does not have albumen in the urine.

Prompt elimination by all the emunctories and absolute restriction to a milk diet until marked improvement shows itself, should be the keynote of treatment. Five to ten-grain doses of Calomel, followed by tablespoon-doses of Epsom Salts and then the daily administration of small doses of Epsom Salts as one of the simplest and best agents to combat auto-toxæmia, should begin the treatment. This with a milk diet alone, will often control the condition and the patient may go on safely to an uncomplicated delivery.

When these measures alone are not effective, then the patient had better be kept under careful observation and an account kept of her blood pressure as indication for extreme measures. In the meantime, hot normal saline solution should be introduced into the colon, in quantities of a quart, two or three times a day. Hot wet packs with the introduction of carefully wrapped and lighted electric bulbs in the pack to keep up the heat, and produce a profuse sweating, should also aid in elimination.

Thyroid Extract in the dose of five grains every four hours, is advocated by those who consider the toxæmia due to a functional insufficiency of the thyroid gland. Thyroid gland administered in this way acts promptly as a diuretic and in reducing blood pressure, but its beneficial effects in this direction, are counteracted by the fact that the drug causes a marked increase in tissue waste and therefore a considerable increase in the urea and other waste products in the blood and urine.

It should be possible in most cases, if the above measures are carried out carefully and successfully, to carry the patient through a safe delivery, at any time however, if there is a dangerous rise in blood pressure, and if the ocular symptoms present themselves, then the physician must understand, that his patient is in extreme danger and that she may be liable to an

clamptic seizure at any time. There is then only the choice, between venesection, the use of *Veratrum Viride*, and a premature delivery. It may rightly be supposed, that if venesection is resorted to, with the idea that the removal of a definite quantity of toxæmic blood and its replacement by normal saline solution, will tide the patient over a short period, then it follows that if the patient does not naturally get into labor at the end of that period, that toxic products will again have accumulated sufficiently, to make a repetition of this measure necessary. The venesection will then have to be repeated, if the physician expects to tide his patient over until she is relieved by natural labor.

The advocates of the treatment by *Veratrum Viride*, claim remarkable results from the use of this remedy which are hardly borne out by the statistics, published in the modern text books of Obstetrics. No doubt, success with this remedy, depends upon its fearless use in experienced hands. Its object is to reduce blood pressure and when the remedy is used in sufficient dosage, it will undoubtedly produce this result. Consequently, when administration of *Veratrum Viride* is once begun, it should be given in sufficient dosage to obtain such a result and its administration continued at such proper intervals, as to maintain this effect. Gillespie in a discussion of this subject in the *Cincinnati Lancet Clinic*, Sept., 1909., mentions one case in which the patient was kept under the influence of *Veratrum* for seven weeks and at the end of that time, had an uncomplicated delivery. From a slight personal experience with the remedy and from the literature on the subject, it may be admitted that when properly used and with the patient under constant observation, that a patient may perhaps be safely guided to the end of her pregnancy. It is only possible, however, if the patient is constantly under the care of a skillful nurse or can be visited frequently by the attending physician.

With these pertinent objections to both venesection and *Veratrum Viride*, it becomes evident, that when the toxæmia does not respond to the simple measures first advocated, that a premature delivery offers the best chance for the patient, according to modern ideas of this subject.

In the multipara, this may mean a resort to bougies and slow manual dilatation, in the primipara with rigid undilatable cervix it will be best to resort to a preliminary manual stretching of the perineum and vagina, then to perform a vaginal Cesarean section and deliver.

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THE COMBINED COURSE.*

BY J. W. PRYOR, LEXINGTON.

The foundation work which is preparatory to the study of medicine is to-day one of the most important problems confronting the medical profession and especially those concerned with the teaching of medicine.

While this problem has been in process of solution for a number of years, it has made rapid strides toward a completion during the past ten years. This is, of course, largely due to the Association of American Medical Colleges and the council on Education of the American Medical Association.

The requirements for entrance to the medical schools have gradually been extended and the lines have been closer drawn, until, at the present time, a medical school which admits to its freshman year students who come with only the high-school preparation, or its equivalent, cannot be classified with the standard medical schools. The American Medical Association has recommended the following as the Ideal Standard Medical School requirements:

(A) Preliminary education sufficient to enable the candidate to enter our recognized universities, such qualifications to be passed upon by the State authorities.

(B) A course of at least one year to be devoted to physics, chemistry and biology, such arrangement to be made, that this year

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could be taken either in a college of liberal arts or in the medical school.

(C) Four years in pure medical work, the first two of which should be largely spent in laboratories of anatomy, physiology, pathology, pharmacology, etc., and the last two in close contact with patients in dispensaries and hospitals in the study of medicine, surgery, obstetrics and the specialties.

(D) A sixth year as an interim in a hospital or dispensary should then complete the medical course.

When I say that a medical school that does not comply with even the first section of the above, cannot be placed in the first class of medical colleges, I do not say it in a spirit of mere criticism, but am only stating facts.

Of the one hundred and forty-four (144) medical schools in existence at the present time, twenty-eight (28) will require two (2) or more years of collegiate work for entrance from the year 1910. Twenty-one (21) other colleges will require one (1) year of collegiate work making a total of forty-nine (49) of the medical schools that will require one or more collegiate years as a prerequisite for entrance.

The increase of our scientific knowledge through the agency of physics, chemistry and the biological studies, has stimulated the medical profession to a greater effort to make practical use of this knowledge, consequently the medical school that is conducted along lines and with the intent of personal gain and commercial expediency is rapidly being effaced.

What can be expected of a medical school that permits, indeed encourages the entrance of students without even the minimum requirements as outlined by the council on Education of the American Medical Association or that of the Association of American Medical Colleges.

We have been confronted in the past years with the argument that our mountain and outlying districts demanded an inferior type of physician, or at least what might be termed a capable practitioner if not a scientific physician. Surely a preliminary education that only fits the student to properly pursue the fundamental branches, as taught in a standard medical school, and thus be able to appreciate and appropriate the instruction given in the clinical branches, is not too much to ask in order that he may be able to become a capable physician; such a practitioner that would be termed capable or competent in the light of modern methods. This would indicate that the question of medical education was rapidly resolving itself into the combined course, that is, a course that enables that student to secure

the baccalaureate degree and the degree of M. D., during a period of six years.

Many if not practically all of the State Universities having departments of medicine are offering such courses. This question has been ably handled by Dr. J. M. Dodson, dean of the medical courses of Chicago University, and it might appear a work of supererogation for me to attempt to add to what he has said. However, I think the question is in process of evolution and still open to discussion.

We presume that in all instances the eight years of graded work has preceded the four-year high-school course, and that the latter is in conformity with the recommendation of the committee of ten of the National Educational Association, or at least its equivalent.

This recommendation as to what constitutes a high-school gives ample opportunity for the prospective medical student to enter the college or university with the proper preparation in Latin, Mathematics, German and Physics.

While the minimum requirement for entrance in a standard medical school is the completion of the four-year high-school course, or its equivalent, it is the recommendation of the American Medical Association that an additional requirement be made for a year of university physics, chemistry, biology and a reading knowledge of German or French. This could not be accomplished in one year in the university, unless the high-school training of the student had included trigonometry and higher algebra, two years of German or two years of French, elementary botany and elementary chemistry.

Unfortunately, this is impossible, with but few exceptional schools, in the State of Kentucky at the present time, and some of these subjects constitute part of the freshman year of the college or university. It would thus seem that the recommendation of the American Medical Association was virtually two years of collegiate work and this leads directly to the subject that I wish to present to you to-day—the Combined Course.

The State University of Kentucky is offering two courses with Anatomy and Physiology as the major study leading to the Baccalaureate degree. That of Bachelor of Arts and Bachelor of Science. The requirements for entrances in these courses differ in some respects, but each requires fifteen units, thirty points, or seventy-five counts, allowing two units, four points or ten counts as conditions. The requirements for admission to the freshman class of the University are somewhat more stringent than those given in the medical schools, in, that the elective branches are fewer in number. It is

to the course leading to the degree of Bachelor of Arts that I would call your attention. To enter this course, the applicant must present three units in Mathematics including algebra, plain and solid geometry, one unit in history, (three after 1909), four units in Latin, one unit in German, and one unit in physics, leaving but two units as elective. This course, with but few changes, would articulate with the medical school and form a part of the combined course.

The four years of Latin obtained in the

physics and ethics. One year of history and two years of chemistry, which would include laboratory work with qualitative and quantitative analysis.

This arrangement would take from the medical course proper, the subject of physics. It would also place organic and inorganic chemistry, qualitative and quantitative analysis in the collegiate years, and would only leave physiologic chemistry in the medical college. To briefly recapitulate and present this in tabular form.

THE COMBINED COURSE.

	FIRST HOUR	SECOND HOUR	THIRD HOUR	FOURTH HOUR	LABORATORIES
FRESHMAN	1 English I 3 Zoology IV 2	German II 3	Physics III 3 French I 2	Latin I 5	Zoology I 3 History I 2
	2 English II 3	German II 3	Physics III 2 French I 3	Latin I 3 Chemistry I 3	History I 2 Chemistry I 3
	3 English III 3	German II 4	Physics III 2 French I 3	Latin I 3 Chemistry I 3	History I 2 Chemistry I 3
SOPHOMORE	1 Latin II 3	French II 3	English XI 3 Economics V 2	German III 2	Chemistry VI 4
	2 Latin II 3 Chemistry I 2	French II 2	English XI 3 Economics V 2	German III 2	Chemistry VI 3
	3 Latin II 3 Chemistry I 2	French II 2	English XI 3 Economics V 2	German III 3 Botany I 1	Chemistry VI 3 Botany I 3
JUNIOR	1		MEDICAL SUBJECTS		
	2				
	3				
SENIOR	1		MEDICAL SUBJECTS		
	2				
	3				

Roman numerals indicate courses. Arabic, the number of recitations per week.

high-school is not sufficient to warrant the conferring the degree of Bachelor of Arts, nor is it sufficient for the wants of the modern medical man. Latin is, therefore, continued through the freshman and sophomore years, that is two years of University Latin. Usually but one or two years of German are given in the high-school this will not give a reading knowledge of German, and one or two additional years should be taken in the University.

While the recommendation of the Association of American Medical Association reads, "(a reading knowledge of German or French)", I would respectfully suggest the substitution of the word, "and" for "or" and thus require a reading knowledge of both of these languages.

The two years of French that may be taken in the University should be sufficient to give at least a translating knowledge of this language, and I believe that this should be a requisite.

Of course, one or more years of University English should be required; one year of university biology, that is, zoology and botany, each accompanied with laboratory work. One year of university physics with laboratory work. One year of logic, meta-

All of the above subjects could be taken in the first two years, thus leaving the election of the purely medical subjects for the junior and senior years of the collegiate work which would correspond with the first two years of the medical school.

I will not outline in detail the freshman and sophomore years of the medical course. It is my belief that the first two years should be strictly confined to the fundamental branches as suggested by the council on education, viz: Anatomy, Histology, Embryology, Physiology, Pharmacology, Physiologic Chemistry, Bacteriology and Pathology. The two years' time allotted to this work is none too long. It may be expedient to include materia medica in the sophomore year, as this subject may be profitably studied in connection with pharmacology.

The importance of a thorough training in the fundamental branches cannot be too greatly emphasized. What would you expect of the medical man who is not familiar with gross anatomy? Could you expect him to be proficient in physical diagnosis without an adequate knowledge of the structure of the human body?

Of equal importance is the study of histology, physiological processes, pathological

conditions; the phenomena observed in clinical diagnosis would be illy appreciated by one not properly prepared in gross anatomy, which has been based on a thorough knowledge of the microscopic anatomy of tissue and organ of which he has been making a dissection. Again, I say a thorough training in gross and microscopic anatomy is essential to a proper understanding of physiology and pathology. The line of demarcation is not so distinctly drawn between a normal and a disturbed function as to be recognized at a glance. We must be perfectly familiar with the gross and microscopic appearance of a normal structure in order to recognize a variation from this which would characterize the abnormal or pathological. Having acquired this knowledge of anatomy and histology, we are prepared to distinguish between physiological and pathological processes.

Of equal importance is embryology, bacteriology, physiology, chemistry and pharmacology. A student well grounded in the fundamental branches of the medical course lays a foundation upon which a substantial superstructure may be erected. It is true there has been some opposition to the combining of the baccalaureate and medical degrees and shortening the period to that of six years, even to the extent of some state examining boards prohibiting the granting of advanced standing to the graduates of universities giving thorough courses in anatomy, physiology, histology, embryology, bacteriology, chemistry and physiologic chemistry. I quote Dr. Dodson, who says: "The proscription of this custom by the medical examining boards of several states constitutes one of the most illogical, unjust, unwise, and probably illegal regulations which has ever been made in connection with medical education. Illogical because credit is thus denied for work far superior to that done in the majority of medical schools recognized by these boards; unjust because the colleges had prepared themselves to teach these subjects in large part at the early solicitation of the better medical schools, only to find the promised credit in the medical schools withdrawn just as their students are prepared to ask it; unwise, because it abolished an arrangement which had been one of the most effective agencies in inducing young men to secure college training before taking up medical study."

I do not think it necessary to present other argument in favor of the combined course, since the able presentation of the subject by Dr. Dodson. He has shown the general culture value of the medical branches and that in no sense does it degrade the baccalaureate

degree or cheapen the degree of medicine. For many years medicine was characterized as an art and not a science. This was probably true. The medical curriculum and the manner in which these subjects were taught justified this estimate, however this condition did not remain.

It has not been many years since we have heard it said that medicine was an art based upon science. Who of the present day will say that medicine, fundamental and clinical, is not a science with all the general culture value that attends the teaching of any science. If you doubt this in the least you have but to visit the laboratories of a modern medical school and the claim will be proven. It is just as important that the professional school should articulate with the university as the university should articulate with the high-school. It would therefore seem ill advised for the medical school to provide one, or a part of two years of collegiate work.

Unfortunately, we have high-schools, academies and what are termed, Institutes, teaching college subjects to unprepared pupils to the neglect of the high-school branches; what is still more unfortunate, there are so-called universities and colleges teaching high-school branches and granting baccalaureate degrees; and what is *still* more unfortunate we have some so-called universities largely existing on paper that are absolutely unworthy of the title. There is another point to which I would call your attention. It is not sufficient for the medical school to have a university connection in name alone. The scientific atmosphere which is found in direct association with the university is lacking unless the preparatory medical sciences of anatomy, physiology and pathology as well as the kindred branches of histology, physiologic chemistry and pharmacology are taught by specialists whose entire time is given to this work and the thought and energies of the student is confined to these fundamental branches. Dr. Howell of Johns Hopkins University says: "So far as the subjects themselves are concerned, they enjoy their widest opportunity and best environment when the medical school forms an integral part of the University, not only in organization, but in location as well."

DISCUSSION.

Dudley S. Reynolds, Louisville, was asked to open the discussion. He said: Mr. President, I am sure we have all listened to Dr. Pryor's paper with due interest and no small degree of pleasure. We may not agree with all he has said, but I am perfectly certain the young man who seeks a medical education without sufficient preliminary training to enable him to compre-

hend the technology of those sciences embracing the curriculum of any first-class medical college, will find himself seriously handicapped. I am persuaded it is not necessary for the medical student to have the degree of Bachelor of Science, or Bachelor of Arts, but it is necessary for him to have a fundamental knowledge of the Greek and Latin languages, because the several parts of the body as described in the textbooks on anatomy are named in those languages; and, all the articles of the *materia medica* have likewise been so named. In other words, those dead languages that gave birth to the sciences cognate to medicine have, from those early days, been carefully preserved through all subsequent time, and even now the diseases and injuries of the body are designated accordingly. The medical student must know Botany and Chemistry in order to comprehend the science of Biology and Embryology. He must be familiar with those mathematical principles which enable men to reason between cause and effect, as well as to trace the connection between the known, the conjectural, and the unknown. Greek, which was not mentioned by the essayist, should be known at least in elementary form. A medical student going into the dissecting room should be able to know what is meant when the demonstrator says, in the dissection of the foot and ankle, "this is the scaphoid bone, this the astragalus, this the cuneiform, and this the cuboid." Unless the medical student knows why they are so named, it will be impossible for these little bones to remain in his memory. When he goes out to practice surgery without a knowledge of the relations of these small bones to each other, and to the man's foot or ankle, he will find himself embarrassed in making a diagnosis. Of course, without this knowledge, he cannot administer satisfactory treatment.

It is an unfortunate fact that many of the medical schools in this country allow any man to matriculate who can furnish a first grade teacher's certificate, or a diploma certifying that he has received the degree of Bachelor of Arts or Bachelor of Science, in a so-called college or university, without knowledge of the elementary facts I have mentioned.

As an illustration of the need of better preparatory training for medical students, I invite your attention to some of the expressions used by some of the gentlemen who participated in the discussions this afternoon. In some of the remarks made this afternoon there was a bad mixture of singular nouns, plural nouns, singular verbs, and plural verbs. One gentleman said, "any woman who is being treated by a physician having uterine hemorrhages, should be suspected of having cancer." I should say this could apply to the female members of the medical profession only. Just why we of the

masculine gender should have been left out, does not appear. If one of our lady members should unfortunately, have uterine hemorrhage, that should not be reasonable ground for suspecting any of her patients to be suffering with cancer. Even if the doctor herself should have cancer, it should cast no suspicion upon her patient.

I wish to invite your attention to another fact, namely, that when a student goes to a medical college, to matriculate, any piece of paper he presents should be accepted, just as it is when the young graduate applies to the State Examining Board for a license to practice. He presents his diploma as evidence of some qualification, but he must submit to an examination in the practical branches before he will be granted a certificate. He must exhibit his capacity to undertake the work he professes to be able to do. And so, when the medical student matriculates in a medical college, he should be subjected to a critical examination as to his capacity to understand the language of the textbooks, the nomenclature of chemistry, and all the terms and apparatus employed in the laboratory work. As to the six years requirement, I am satisfied we are rapidly coming to it. If a young man can have a university training in the branches mentioned by Dr. Pryor, before matriculating in a medical school, the four years may suffice; but, without such preliminary training, the time is totally inadequate.

SYMPOSIUM ON THE SOCIAL EVIL.

COST OF VENEREAL INFECTION AS VIEWED BY THE GENERAL PRACTITIONER.*

BY C. H. VAUGHT, RICHMOND.

I can hardly realize just how any subject could be of more importance than the one under discussion to-day. This is certainly true when brought face to face, with broken homes, with suffering, with sorrow, with unnecessary surgery, with preventable blindness, with deception, with vice and with tears, to say nothing of statistics, I shall confine myself then, to but one phase, of the "social evil problem," leaving the other, for those whose names appear on the program, which alone are quite sufficient to assure us that every point in this great question will be handled in a way entirely satisfactory, and pleasing to those who are interested.

Raymond has said without syphilis and alcohol, the specialist in nervous diseases, would lose their occupation. A great gynecologist said, if one could blot out gonorrhoea

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he would at the same time blot out gynecology, unless the sequela of bad obstetrics might keep it alive for awhile. Ricord is quoted as having said, when asked to respond to the toast, "His view of the punishment of hell," replied, that no greater punishment could be meted out to him, than be compelled to review the procession, and hear the accusations, of those he had failed to permanently cure of gonorrhoea. Dr. Joseph Price, Philadelphia, says there are more and better reasons, for locking up in jail, a man with gonorrhoea, than there are to incarcerate a common murderer; in the one case there is but one victim, and that victim is dead; in the other, there may be a dozen more doomed, possibly to suffering and sorrow, during the remainder of their miserable lives.

I will address you then from the viewpoint of a man in general medicine, on gonorrhoea, some of its complications, its costs in life, and suffering, as well as some of the other ills, that this disease alone entails. It is more than fourteen years since Dr. Ferd C. Valentine, New York, in the section of Hygiene and Sanitary Science, of the American Medical Association, read his memorable paper on "The Dangers Which Apparently Cured Gonorrhoeas offered in the Marriage Bed." It was possibly the best paper, up to that time, or possibly since, that had been read on the subject. The bold, aggressive manner employed by him, aroused this great profession almost as if by magic, yet it was of short duration, this profession only took the time necessary to find that even this paper with its startling revelations, had told but half the real conditions. Since that time, there have appeared many most excellent articles, by such men as Tabor Johnson, Robert Wilson, Joseph Price and others, which I hope and believe have again stimulated a great but often optimistic profession, to a full realization of its almost criminal negligence, in permitting the existence of such conditions without a better effort and it seems without a note of warning being sounded, or a danger signal being hoisted to protect the innocent victim, who after all, is to bear the burden, and whose physical suffering is to atone for sins committed by the man into whose hands she willingly places all that is dear to her, all that is sacred to her, in fact her life.

Do you not agree with me then when I charge that we have been moral cowards, and have come short the traditions, of a great profession when we have failed to perform our highest and our noblest duty, and certainly this is true, if for any reason, we have failed to protect the prospective bride, com-

ing from the families that we serve as medical advisers, telling her or those that should know of the cost in suffering, in sorrow, in suicide, in divorce, that the ravages of this disease alone entail. The primary object in the creation of the sexes, is the perpetuating of the race, the fulfillment of a woman's destiny is completed by marriage, yet she has been permitted to plunge into this destiny with no light to guide her and little attempt to protect her, and is not the duty of this great profession to make the race a happier, better, healthier race; have we done this in dealing with this class of cases? We cannot wave the issue aside; it confronts us to-day as it has for years past. We have many times seen the truth, and it can no longer satisfy us to ask, what is truth, then close both ears and eyes. If we had wanted social purity, we might have had it long ago. America has traduced her own nature in postponing clear and round dealing in this matter of public morals and has been closing her ears to the cry that has gone up within her borders. These facts are regretfully acknowledged by thousands of physicians who are to-day endeavoring to undo the wrong that their false sense of propriety and timidity have perpetrated.

Our sense of shame is hardly the less when we remember that some of the clergy have also encouraged people to sell their birthright of virtue, together with the sanctity of home ideals by themselves, permitting and performing the rite of re-marriages of libertines, separated by the morally irresponsible law. Thus, the physician through failure to inform and the clergyman partly through ignorance of the scientific facts resulting in the harmful use of the marriage ceremony, must bear together the yoke of responsibility for the social evil as it exists to-day.

Robert Willson says, "I would place the responsibility for the gradual disappearance of the American home circle, one of our prized institutions, equally at the door of those who are guilty of marital infidelity and at that of the average re-married divorcee, and his half-sister, and brother, the male and female prostitute." He shows that there have been over 325,000 American homes disrupted in 20 years, and more than 70,000 of these laid at the threshold of adultery, and yet it goes on, but it clearly shows that the public standard of morals is low when all returns are in. Has the time come for us to demand the disappearance of this scourge? Let us believe it; let us hope it has. There is need of good and brave men, whose energies may fail, yet there must come that satisfaction to him of duty done and maybe he has been the means of keeping one child in ten thousand

pure, this is enough to repay every energy and every effort spent. We thought a little while ago of the futility of any and every effort to stay the progress of the tubercular scourge, but to-day we see just what can be done when this slow-acting, slow-thinking public is once aroused. Every class and condition of men almost are at work to-day and have been for the past two years, lawyers, clergy, W. C. T. U., women's clubs, committee of one hundred, mechanics, laborers, tenement dwellers, and occasionally a philanthropist has given of his hoard to further the interest of this great work, despite difficulties that seemed insurmountable, despite the skeptics, a wonderful work has been done and a much greater one will be done, and oh, the dividends in the way of saving human life. But we have confronting us a scourge as deadly, as wide-reaching and more prevalent, possibly, than tuberculosis. There are no placards displayed to warn you of the approach of the gonorrhoeic; he comes unheralded and unsung, the subject of this disease absolutely free, uncontrolled, unmarked, unknown, uncured, no precautions, they are turned loose in unbelievable numbers in all the communities of our country, infecting all with whom they have carnal relation, and finally the wife, the one girl of them all to him, the only woman possibly, he ever loved; the only one, possibly, that ever loved him, falls a victim. No cough or emaciated form has told her his secret; no hectic flush or glassy eye, to warn her; his fine physique has lost no curve or outline; no distinguishing marks of identification—the pity is that there are not some, this secret not known, however, until the enactment of the tragedy that is soon to follow, when some pure girl's life has been sacrificed and she remaining in blissful ignorance of it all. Let us go one step further in viewing the personnel of the two classes, those who suffer respectively from gonorrhea and those who suffer from tuberculosis, many of the latter are seen among the poor, and the uneducated, those without the slightest knowledge of sanitation or of prevention, who know nothing of the benefits of pure air and sunshine, indeed many of them have had no opportunity to know, while the subject of gonorrhea usually knows, most everything, except the fact that he is a very dangerous element in every community and the further fact that neither he himself, his friend nor his druggist can cure his disease. Aside from this he is usually one of the boys, if you please, a rounder, the degenerate son, maybe, of a "feudal baron" of finance, one whose life is often spent in luxury and libertinism; he who sleeps till noon that he

when night throws its charitable mantle over him, he will be in better condition to continue his debauchery. This is a rough picture of these fellows, but I have shown these two conditions simply to call your attention to the fact that this gonorrhea is not the innocent creature that many seem to think he is. He more frequently is the fellow who don't care just what happens or just how it happens, these are the greatest offenders and it is not that he does not know better, although it is rather that his moral caliber has become so seared and callous that he imagines himself free to act as he pleases. Many of these fellows, a week after a debauch of this kind, have the effrontery to lead some pure as well as trusting girl to the altar. She imagines her lover as pure as she; the result—have we all not seen it many times? Does the picture not revert to your mind as I read, the wife in a few months possibly grows inexplicably ill. After two, three, or more attacks, a physician is summoned, and from the history unfolded to him he believes this wife to be infected, and very cautiously and often apologetically, he will inquire if this gallant groom has not had gonorrhea. Possibly in half the cases he will get the truth, but I think this estimate too high, but if he gets the truth at all, this etiological factor does not believe his trouble could have anything to do with the sufferings of his bride wife. How difficult it is to convince many of these fellows and us that a gonorrhea contracted five or ten years ago is often as communicable as one contracted that many months ago. The result of such belief is one child, sterility, perhaps sterile from the beginning, resulting salpingitis, and finally to the hospital, and into the hands of the gynecologist, he does nothing more than his duty which is to remove one or both tubes and ovaries, unsexing this bride of a year. This gallant groom, this Chesterfield of debauchery and deception is possibly himself kept in ignorance of the real cause of his wife's condition; he has fixed ideas about the operation and its results, and by and by a divorce proceeding is begun, with this distinguished gentleman the plaintiff, the unfortunate victim, this short time ago lovely bride, offers no objection, makes no defense, but suffers a martyrdom, the depth of which can never be measured and a humiliation that an ocean of her tears can never wash away; an injustice for which no atonement can suffice. The divorce is usually granted, for it requires much less than this very flimsy and hypocritical excuse to secure one in many parts of our country. This fellow again turned loose on the community and no effort, not even his conscience has directed him to seek relief. Then

another victim pays the penalty as did the first, and little is heard above the din of this carnage from this, or any other profession, not a tear has been shed for the one who has suffered most, and only a feeble and spasmodic effort has thus far been made to protect her, or to prevent the dissemination of this death-dealing poison. "Only a clap," says this profligate whose prodigality knows no bounds, for many of them leave a trail of gonococci on your door knob, on your table, on your desk, towel, floor, furniture, etc., with as much impunity and unconcern as they would brush the ash from a cigar.

While it may be true that almost without exception, gonorrhea is contracted by sexual intercourse, we can hardly get accustomed to the generosity of the offender whose training in matters sanitary are so faulty, "Only a clap," and the doctor smiles, and may utter the same flippant remark, as though the condition was a simple one, yet miles of grave-stones throughout our land mark the progress of the gonococcus.

That this is an advanced age in medicine we cannot deny, an age when it is proper for us to live; when all people are becoming interested in medical matters, not that medicine has changed her attitude of observation, but after having devoted so many years to the verification of symptoms, to the research of anatomical lesions, to the study of pathological physiology, it comes to the study of the origin of disease which, when known, makes it possible to prevent it.

The public health and preventive medicine crusade has justly enlisted the admiration and attention of the world, the brilliancy of recent discoveries has been to fascinate and to dazzle, it has caused according to temperament, enthusiasm or sarcasm, infatuation or dread, yet all such sentiments science will repudiate and in spite or resistance or intemperate displays of an exaggerated enthusiasm, will march serenely toward the truth, and if all the truth is known, it seems that it should hardly be necessary to warn the victim of uncured gonorrhea, of the danger he is to the community, to society and to posterity. But he does not know it all; "Only a clap," he says, but does not know how such a disease can at any time become serious or dangerous. There is no disease more prevalent among men than gonorrhea: maybe 95 per cent. is too high; I do not know, but possibly too low, then about three men out of every four you meet, you might say to him, "thou art the man." Think what an army we have for scattering broadcast the horrors of this disease, and yet they continue to argue that is only a simple condition; it is nothing worse than a cold.

This is about the conception that the average fellow has about this trouble. He believes this to be true, yet in reality we know it is one of the most dangerous of all infectious diseased conditions, this gonococci of Neisser, multiplies with prodigious rapidity, it may ascend the whole course of the nine inches of the urethra, and into the bladder, it penetrates the crypts and follicles and glands, possibly half the cases do not recover because of improper treatment, though Valentine estimates that ninety-five per cent. are curable, if properly treated. From the devastation wrought by this disease, it is possible that many cases are not treated at all, except by the advertised nostrum and patents, and as many more improperly treated by the doctor. While I believe that better general practitioners, as a rule, know how to treat such cases, many of them do not take the time necessary to effect a cure, while many others do not treat them at all, but refer them to some confederer, but I believe that when such cases are presented to the man of general medicine, he not only should treat them, but he should do it well, for it requires but a glance at the possible complications to convince us that the disease at least demands it. Chordee, folliculitis, epididymitis, urethral phlegmon, retention of urine, acute prostatitis, cowperitis, cystitis, orchitis, gonorrheal rheumatism, ocular complications, bubo, balanitis, lymphangitis, etc., and yet if this were all, and the mischief could only stop here, it would not be so unfortunate after all, for the transgressor should alone pay the penalty, but it is not so; it is the innocent wife, the unborn child, that should and does enlist our sympathy, as well as the thousands of blind children all over this country, who have been made so by this disease. We can hear them as they cry aloud for help and for mercy, yet they are beyond our help, and our pity availeth nothing, already shut out from God's sunlight and starlight, hopelessly blind, they become dependents upon those that love them, or the community which at best but pities them. It is estimated that from 10 to 20 per cent. of the world's blindness is due to this infection, one third of all the blind children in Germany's blind asylums have been made so by this disease. Austria follows with a like number. Germany having nearly 40,000 blind from this infection. In the United States, from 25 to 30 per cent. of the blind in asylums have been sent there by this infection, the great majority of these have become burdens to the state, and yet, notwithstanding these appalling statistics, we hear the victim blurt, "Only a clap," and the doctor possibly will add,

"Yes, only a simple condition;" maybe the doctor has not been consulted at all; some friend who has a trusty, or worse still than this, he saw in the closet a notice conspicuous by reason of its false claims and its location, (all filthy places remind us of our indiscretions), that some patent would do the work in three days—and it usually does it in about that length of time. It requires only about three days for such treatment to produce some of the many complications of the disease and will thus make the sufferer's chances for a complete recovery much less, or worse still, gives him a false idea of his condition and he becomes a splendid medium for the dissemination of this most deadly disease. There are thousands of just such cases all over this country, carrying in their economy millions of this microbe, battalions of them waiting a new culture, media to again become active, again become death-dealing, again become health-destroying, again capable of producing blind children, again sealing tubes and inflaming ovaries, where could this media be found better, or a more fertile field for the growth of this microbe than in the marriage bed, and this after five or ten years of supposed immunity.

Now, a few facts concerning the woman in the case, very few of them are ever cured, or at least a much smaller per cent than the male. For many and varied reasons this is true, chief among them being that she has never heard of such a disease and the source from which she became infected is sure not to enlighten her on the subject, and she is the easiest of people to deceive, this American wife. Thus, many months may elapse before she even consults a physician and then it is possibly too late as at this time it is nearly certain that the internal organs have become infected, then an abdominal section will close the scene. Nogoerrath states that 50 per cent. of the sterility in women is due to gonorrhea; Neisser states that 60 per cent. of the sterility is due this cause; Archer found out of 227 women in his care, 121 were sterile from this cause. Dr. Joseph Price of Philadelphia says that of 1,000 abdominal sections done by him, 95 per cent. of the pathology was due to gonorrheal infection. The statistics of the German Empire show that 80 per cent. of women who died in a given number of years from uterine and ovarian disease, died as a result of gonorrheal infection. Czerny says that more than 50 per cent. of all sterility is due to this cause, and now we naturally ask, who are the subjects of this infection? Do we flatter ourselves that they are prostitutes in nearly every instance? If so, I much regret to say that statistics do not bear us out in arriving

at such conclusions. In this harvest, the American wife pays the penalty. Morrow is quoted as having said that there is more venereal infection among virtuous wives than there is among prostitutes. He estimates that 8 per cent. of the married women of the country are suffering with gonorrheal infection, while Nogoerrath says 80 per cent. of the wives of New York City are infected, then we have, taking the number of married women in the country, over a million and a quarter infected with gonorrhea in the United States alone. Is this enough—are these figures enough to convince us of the gravity of the disease, and to forever dispel the statement or belief that we are dealing with a condition no worse than a cold? We know as has been plainly pointed out that gonorrhea produces pathological conditions peculiar to women, causing grave pelvic lesions which result in loss of life, in sterility, in invalidism. The septic virus extends to the uterus, tube, even to the peritoneum, the vaginal mucosa, seldom being primarily infected, due to the absence of glands in the vaginal mucous membrane, and to the presence of an acid secretion.

The disease may remain dormant for years and still retain its power of infection. This explains the thousands of young wives that are annually infected by husbands who have not had gonorrhea possibly for years before marriage, maybe the majority of these, let us hope it is so, are ignorant of any local trouble, yet, I do not believe that ignorance should be accepted as a valid excuse, for we have but to turn the picture, reverse the order of things and the girl bride had been the victim, she maintaining the same secrecy, yet having the same treatment, the same freedom, for the same number of years from symptoms the devoted, the gallant groom awakens one fine morning to the fact, what do you imagine would become of this bride? Possibly thrown out the window, if it happens to be a second-story home occupied, if not, the fall would not suffice; disgraced, divorced, without a trial jury, and maybe more than this, I do not know, and yet, this husband exactly in the same condition can hulk through life, without his sins finding him out. Ignorance has never been accepted in law and it should have no place here. I hold that no man has the right, moral, legal or any other right, when anticipating marriage, to consummate it without being subjected to the most rigorous examination that is possible to be made by a most competent observer. If he has ever been a subject of gonorrhea he should not be permitted to secure a license without a certificate from one wholly qualified to give it. You may argue

that this procedure would subject the victim of the disease to an unpleasant publicity, not at all necessary, but suppose it did; can you compare the temporary mortification to a tragedy? Does the husband wish to protect the woman who is to become his wife? Sometimes the conscience will so direct them, as a case under my observation will show. A short time ago a marriage was contemplated, an engagement announced, in one of our States, the expectant bride happy in anticipation of the event, the time finally arrived, the groom failed to appear, giving some insignificant excuse only, which did not satisfy an outraged parent who was about to demand either an explanation or the life of the would-be groom, but before he had an opportunity to see this fellow, he was told by a source entirely satisfactory to him, that the real reason this fellow had failed to carry out his part of the contract, was, that he was a subject of uncured venereal disease, he could not further carry on the deception, and possibly unconsciously he performed a great service to both his proposed wife and his possible progeny. No doubt the parent looked on this fellow with pity rather than contempt, and felt that his daughter had made a very lucky escape.

It will be an epoch-making event when all such cases postpone entering into such a compact until they know they are absolutely well when this time comes, and it will come. It will mean the passing of years of unnecessary suffering and wipe away oceans of sorrow. As Pasteur said, it was in the power of man to make all infectious diseases disappear from this earth. So it is then, let us hope, that this one will be among the first to go. How can this be done? I do not know a better way than to have all classes of gonorrheics undergo the most rigid examination. This will certainly help along the way and yet, many methods have been tried, all ending in failure. Registration, segregation and licensing have failed, medical examinations of prostitutes accomplishes nothing and is degrading to the examiner. Would it not be an ideal thing to have the boys and girls, fathers and mothers, meet three or four times a year, tell them only the truth, but possibly not all that in plain language, teach them something of the physiology and pathology of the genito urinary organs, and have, as has been suggested by Valentine, the same thing taught in the schools of our country for advanced pupils, thus we protect all classes and all grades of society and make many missionaries who will teach those we cannot reach. Teach our daughters that they have as much right to demand of the man to whom she is to be married, the same clean

and perfect bill of health that she lays before him; impress the boy with the facts that a sound body and a sound mind can only be had by evading these dives. Clean up the school and railway towns which provide colonies of perverts and degenerates, correct the environment of children, prevent idleness as well as confinement in narrow spaces, in cellars and poorly ventilated rooms, all of which tend toward pernicious habits as well as dissipation of every kind. Let the children out in the sunlight and fresh air, which so much develops brain and muscle and character as well. We should and will, some day, be held accountable for doing less than this, poverty will not suffice as an excuse, for yet, thank God, there is no premium on air and sunlight. A courtesan with gonorrhea, one such is enough to destroy a dozen noble boys: prohibit the dive and the courtesan; make her an object of pity, and of merey; as Notzing has said: "The limitation of the evil to a minimum, which seems to every one of any knowledge on the subject, is both desirable and attainable with any prospect of relative success can only be brought about through reform of society, through correct education of the young and the ignorant and amelioration of the conditions of life; for the more undeveloped, an individual is, the more reckless he is in the gratification of his desires. We should institute a real sexual education and lead the matured sexual instinct by means of the preservation of rational indulgence, into paths devoid of danger. We should make needful concessions to the natural impulse and thus public vice with its results, the unlimited spread of the venereal disease and the increasing crimes against morality would be greatly diminished and become more and more confined to the step of children of nature. (these subject to congenital viciousness.) An earnest, persistent, relentless organization throughout the length and breadth of the land, until both men and women of this class are driven from the streets and houses. As Dr. Wilson has well said, that God must often turn his face aside in pity at our methods of working. It must be so when our desires for the removal of the evil burns brightly for a day, and slumbers for decade. Convince the 14,000,000 boys and young men in the United States that prostitution and divorce are kindred evils, conspiring to undermine the homelife and purity of the American citizen, and you will win an invincible army for a vital cause. The women will assist in winning the men, and should the latter refuse, which they will not do, Joan of Arc will succeed alone where generals have failed. Mark every man who

cries aloud that the social evil is inevitable and necessary as one whose moral tension is at a low ebb. Free, open air, exposure of the wrong with its consequences, to man, woman and child, begun early and earnestly taught by mother, father, pastor, physician, and the child will nourish to on-coming generation out of a dwarfed and deformed semi-morality into a full and healthy manhood and womanhood, with shoulders thrown back, head erect, chest expanded, with the sense of honest, round dealing by all mankind. This will be accomplished and all of us must assist in the doing.

England is three more intelligent than we, for her parliament hundreds of years ago, passed an ordinance prohibiting the presence of the courtesan and the bookmaker in University towns, and to-day you cannot find one within four miles of Oxford or Cambridge. Wyoming, which for thirty years, has given to women the right of suffrage, has on her statute books a law compelling a certificate before a license can be secured. Massachusetts has recently passed laws preventing the press of that state advertising any and all nostrums, claiming to cure venereal disease. This is a step in the right direction and we hope to not only see our Kentucky enact such a law, but other states as well.

The judiciary give license for all kinds of dives and degenerates, that serve only to madden men and ruin women, and the youth of our land as well then tax us heavily for the commitments that follow reformatories, in prisons, in blind asylums, and the various other institutions that care for these unfortunates. Gonorrhea favors unhappy marriages, unhealthy conceptions, and a common race suicide. Let us then catch the spirit of the greatest effort the world ever saw that we not only can protect our daughters and those of our friends as well; these are to become future wives, and educate our boys, then both can and will protect themselves, teach our daughters that to marry a man whose habits are questionable, will possibly mean venereal disease, necessitating an operation, and possibly death. American honor is in the balance, as it has been for time past, and more awfully true is the fact that the fluctuation of that balance depends largely upon us, the strongest as well as the most important profession on earth.

"Who is the happy husband he,
Who seanning his unwedded life,
Thank heaven with a conscience free,
'Twas faithful to his future wife."

COST OF VENEREAL INFECTION AS VIEWED FROM THE STANDPOINT OF THE LAWYER.*

BY HON. R. W. BINGHAM, LOUISVILLE.

At the outset, I want to express my personal gratitude to Dr. Vaught for the paper which he has read this evening, and for the able, effective and eloquent manner in which he read it. It is impossible for me, following an address like that, to add materially to the discussion of the subject, for the doctor is the man who really knows and really appreciates the gravity of this problem, as well as the dangers attending these diseases. Yet, I think all of us who are at all observant, who have any knowledge of the ultimate effects of venereal disease, must be impressed with its danger and with the fact that it is widespread; that it is a curse, and that it is high time that some organized, united and intelligent effort was made to diminish it. I think that all of us, after we approach middle age and see the men around us, our acquaintances and our friends, suddenly fall under some dreadful blow, such as insanity and the many other diseases which follow venereal infection, must realize what a dreadful problem and what a grave danger this is. I remember when a boy in college being told by the professor of surgery, that in the institution in that year he had treated forty-two cases of syphilis among the students alone. Knowing that some of those young men were my friends, and knowing their parents and their connections, it made me realize then what a curse this disease was, not only upon them, but upon a countless number of other lives. In my connection with the Kentucky Children's Home Society, the matter has been brought home to me in a very powerful way. We have a record of twenty-two children who are now suffering from one form or another of a terrible and usually incurable disease, as a result of syphilitic heredity. Three of them are insane. Three have been put in the state asylum. Others are suffering, and with all the efforts and with all the skill that the best physicians in Louisville have so generously given to us for these children, their cases seem to be practically hopeless.

While we have been waging a successful fight in stamping out tuberculosis, there are two or three difficulties in the way of handling the problem of venereal disease properly, and one is a false sense of modesty. It is mere prudery, that because venereal disease is usually connected with vice it must not

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be mentioned; that young boys particularly should not be told and should not be warned of the dangers that they are likely to encounter. Gentlemen, I do not think that there is any father of a boy who sees him growing up who does not have many an hour of terrible anxiety, when he realizes the dangers which may beset his path and the diseases to which he may fall a victim. I believe you will bear me out in this statement when I say that in the great majority of cases in this country the men who escape venereal disease do so not because of their virtue, but more because of their good luck. (Applause.)

There is no sense in discussing a problem of this kind in mining words. We must tell the truth. We have a very grave problem to face. It is widespread. It is general, and more than that we have to face a sluggish, public sentiment. Yes, I may say an ignorant, public sentiment, and in addition to that a crude and false sense of modesty, a mere prudery in dealing with this great problem.

The other day I was reading Lecky's History of European Morals, and in that connection I came upon a passage which impressed me very much, and which I am going to read to you. It is as follows:

"Under these circumstances, there has arisen in society a figure which is certainly the most mournful, and, in some respects, the most awful upon which the eye of the moralist can dwell. That unhappy being whose very name is a shame to speak; who counterfeits with a cold heart the transport of affection, and submits herself as the passive instrument of lust; who is scorned and insulted as the vilest of her sex, and doomed, for the most part, to disease and abject wretchedness and an early death, appears in every age as the perpetual symbol of the degradation and the sinfulness of man. Herself the supreme type of vice, she is ultimately the most efficient guardian of virtue. But for her the unchallenged purity of countless happy homes would be polluted, and not a few, who, in the pride of their chastity, think of her with an indignant shudder, would have known the agony of remorse and of despair. On that one degraded and ignoble form are concentrated the passions that might have filled the world with shame. She remains, while creeds and civilization rise and fall, the eternal priestess of humanity, blasted for the sins of the people."

We need not follow the distinguished author of this affecting statement to the limit of the conclusion which he reaches; but the fact remains that prostitution is gen-

eral; that organized bodies of men in the large cities of our country devote their energies to the production and sale of prostitutes and derive large revenues from this dreadful traffic; that the best students of this traffic hold that approximately 70,000 young girls are debauched and sold as white slaves every year in this country; that the dreadful life these poor wretches lead produces such high mortality that they live on the average only five years; that the standard of morality among men is low and that public sentiment is both sluggish and uninformed. In addition, we must face the fact so forcibly presented by Dr. Vaught that approximately 85 per cent. of the diseases of the generative organs in women are caused by venereal infection. All these factors unite in presenting a problem of magnitude and gravity, and one which demands the best and most enlightened efforts for its solution. Some of our best people have urged closing all houses of prostitution as a remedy. In my judgment we are not yet ready for such a course. For the present, I believe we should unite in aiding all the efforts now being made throughout the country to prevent the manufacture of prostitutes and to destroy the protection afforded in many cities to the infamous scoundrels engaged in this business, and to bring condign punishment upon these malefactors. We must lay aside all prudery, all false modesty and begin to educate our boys—the girls will generally be safe—if the boys are properly taught. They must be taught the dreadful dangers of venereal disease, its immediate consequences and its after effects, and while educated along moral and religious lines, enlightened along practical scientific lines as well. Gentlemen, I want to say this; in nearly all the great humanitarian movements both at home and abroad, the world has looked to the medical profession to begin them and to sustain them. In this movement we must look to your profession to tell us what to do, to lead us and to direct us in this fight. In simple justice it should be said that in all the past you have never failed to justify the confidence placed in you; you have never been looked to, or depended upon in vain.

COST OF VENEREAL INFECTION AS VIEWED BY THE MINISTER.*

By REV. E. L. POWELL, LOUISVILLE.

I have been frequently called upon to speak on subjects about which I know nothing, and this is only one of many such in-

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stances. I did not come in sufficiently early to hear all that has been said on this most vital subject. I have, however, been amazed, and there has been awakened within me a feeling of intense interest and anxiety in connection with this matter. It is a remarkable fact that an evil so prevalent, so far-reaching in its results, affecting the man and woman and the offspring, should not have been dealt with in some such organized way as we are now dealing with tuberculosis and other things.

I have been wondering—and I do not come before you with any prepared speech—whether or not, after all, an evil of this sort can be dealt with effectively except by moral influence. As Chief Hager has stated in his paper, it is altogether improbable that physical examination will tend to check this evil. I do believe, however, that righteous indignation will perhaps do more toward checking it than anything else, and I like the splendid flash of contempt for that kind of thing as it came out in the paper which was read by the gentleman (Dr. Vaught) who was addressing you when I entered the room. There are certain characters in this world that ought to be Pariahs; that may be a hard thing to say when very many of these men come to their condition as a result of lack of education, as a result of indifference on the part of their parents to this great question in the early and formative days. But any man, who knows himself to be afflicted with the terrible disease we are discussing tonight, who deliberately takes to his arms a young woman as his wife is a criminal. (Applause.) As the husband is, the wife is. "Thou art mated to a clown, and the grossness of his nature will have weight to drag thee down." I believe that one remedy for this trouble is to burn into the minds and hearts of our young men the sacredness, the holiness, the glory of the marriage relations. (Applause.) It is one of the holiest hours that comes to any man in this world; I cannot conceive of a holier hour than when he stands before the altar and pledges in the presence of God and man, love and loyalty and devotion to the woman whom he expects to be the mother of his children, and with whom he identifies everything that is good and from whom he expects all of his possibilities to be brought forth and developed and realized. If a young man goes to the marriage state merely as a proprietorship arrangement, as a miserable, low opportunity for the gratification of lust; if no idealism enters into the marriage question whatsoever, as a matter of course, a man of that sort has not got any conscience to which you can make any appeal, and

he is little better than the brute creation. (Applause.)

We can be warned, as has been intimated by one of the speakers tonight, by the fear of hell on the one hand. Somebody has said that "God does not pay at the end of a week or at the end of a year, but he pays whatever a man sows that shall he also reap." There is no escape. To be afflicted with this disease; to have the miserable shame of it; to feel the conscious degradation of it, the miserable self-loathing of it is something awful beyond any description. I would rather go to a physical hell and have the blazing fires of that physical hell burn me than to have the shame, the hatred of myself, the contempt of having outraged all that is divine within me, as my constant companion all through the years, besides feeling myself to be a little better than a murderer. (Applause.) But, my dear friends, this thing ought to be dealt with and is being dealt with most earnestly by the medical profession.

In returning from Europe last summer, a year ago, I was talking with a gentleman, on the steamer, from the State of Virginia, a preacher, an Episcopal clergyman, who told me of a doctor whom he had heard deliver a lecture in his little town. This doctor was a man whom you all know—Dr. McCormack, who made a wonderful impression on the people of that community. In the face of some startling facts brought forth by this lecturer, this splendid evangelism is being felt by the communities wherever he goes. (Applause.) Talk about preaching the Gospel, that man is engaged in as sacred a calling as any preacher of the Gospel in bringing this message, for he appeals to the conscience, and to the self-respect of those who hear him.

By the way, Mr. President, if I may be pardoned for a digression, I want to thank you for what you said in reference to making preachers pay their doctor bills. (Applause.) I believe Dr. McCormack is a preacher, and as he gets paid for the services he is rendering, he does not expect to escape from meeting his financial obligations. On the same principle the preacher, who is delivering a message on no more important subject should be paid, and he should pay those who serve him. I have always thought it was a miserable condescension on the part of the public to give preachers reduced rates to this thing and to that. They should pay their bills as other people do.

I want to conclude my speech by saying that what we want is a high ideal of manhood; a clean, strong man; a man who wants a youth that is high and strong and clean

and vigorous and virile and forceful and aggressive. Let us understand that to be a man is the highest thing on God's earth. Understand, there is no mountain in this country taller than the man who stands four squares against every wind that blows. The higher your conception of manhood, the more certain will you escape from all those things that so degrade and dishonor and defame this human nature of ours. Lastly, I can only say that the moral treatment of this evil seems to me to be perhaps the most effective treatment that can be had. (Applause.)

COST OF VENEREAL INFECTION.*

BY COL. J. H. HAGER, CHIEF OF POLICE,
LOUISVILLE.

There has been much and varied discussion of recent years in the medical world, the schools, and society in general, over the spread of the much dreaded White Plague, and yet there is a form of infection so widely prevalent, that we find it existing in all classes of society and against which there is not only no public warfare being waged, but it is even treated by the State as though it did not exist. Yet, it is an evil that the nation should not shut its eyes to, because it bodes almost as great ill to the families and the State as Tuberculosis.

Venereal infection is a social evil with which the world has had to contend since the advent of time. (We find a reference to it in the Old Testament), and it has come to be regarded as one that will always exist. Owing to the nature of venereal diseases, it would be hardly possible to control them in the same manner that small-pox, diphtheria or scarlet fever are controlled, and on account of our lax laws on Public Prophylaxis, we have good reason to believe that this evil will no more wholly be eradicated than any other infectious disease. But on the other hand, we have faith enough in the altruism of human nature to believe that when the terrible price that this evil is exacting, is realized, some potent measure will be taken to minimize its prevalence. Eighty per cent of the men living in large cities are infected with gonorrhoea, a large portion of these marry, transfer it to their wives, and here we have one frequent cause of sterility or barrenness.

On account of the nature of the work of the office of Superintendent of Police, perhaps this class of men more than any other can see what havoc this public menace is

working. The doctor has to deal with one who is seeking to be cured of the disease, but that one is of a very small minority to the numbers that are suffering from it. These supervisors of Public Protection are keenly alive to the terrible cost and are unanimous in deploring the absence of any law or ordinance drastic enough to impede its progress. The consensus of opinion that I have drawn from the different superintendents of police of the various leading cities of the world, is that much study and investigation from a therapeutic point of view on the subject, would amply repay the country by a much better condition in the health of its people, and, of course, the natural state of a healthful people is independence and leadership and *visa versa*.

We say that history is made up of the rise and fall of nations, we read of the regal days of Ancient Rome as we would view some glittering pageant, and yet if one pauses to consider the end of her history we cannot deny that it was the disease of licentiousness that cost the nation its very existence. And so we might trace out the degeneracy of more than Rome's people through this same avenue of public morals. And the American people of to-day are leaving it to some great philanthropist I suppose, to settle this national problem.

With but few exceptions, the situation is handled much the same in all of our leading cities. With a view to learning the exact conditions in other countries, and in the principal cities of the United States, I addressed a communication to the various chiefs of police, asking in substance that they furnish the following information:

1. What steps, if any, does the Police Department of your city take, when it is brought to its notice, that a prostitute, or public woman has become infected with gonorrhoea or syphilis?

2. Is there a state law or city ordinance which requires that prostitutes or public women submit to a physical examination at certain intervals? If so, please furnish me a copy of same.

3. Who makes such examination, and who compensates the examiner?

4. In your opinion, is such examination of material benefit to the community, and have you any suggestions, based on your experience as a police officer, which would be of benefit in an endeavor to check the spreading of the above mentioned and other venereal diseases?

In practically all of our principal cities, the custom is, that when a person is found so infected, he or she is arrested on a charge of vagrancy and sent by the authorities to

*Reau before the Kentucky State Medical Association, Louisville, October 19-21, 1909.

the city hospital for treatment. This condition of affairs is true of Chicago, Toledo, Buffalo, Kansas City, Cleveland, Baltimore, Boston, San Francisco, Atlanta, Jacksonville, St. Louis and Washington. In these cities, there is no law regulating houses of prostitution, as the law does not recognize the existence of a prostitute, hence, there can be no law regulating them.

However, in a very few states, prostitution is prohibited by law. California has a state law which reads:

Section 315. Penal Code. "Keeping or residing in House of Ill Fame; Proof. Every person who keeps a house of ill fame, in this State, resorted to for the purposes of prostitution or lewdness, or who willfully resides in such houses, is guilty of a misdemeanor, and in all prosecutions for keeping or resorting to such a house, common repute may be received as competent evidence of the character of the house, the purpose for which it is kept and used and the character of the women inhabiting or resorting to it.

Section 316. Penal Code. Keeping disorderly houses. Every person who keeps any disorderly house, or any house for the purpose of assignation or prostitution, or any house of public resort, by which the peace, comfort and decency of the immediate neighborhood is habitually disturbed, or who keeps an inn in a disorderly manner; and every person who lets an apartment or tenement, knowing that it is to be used for the purpose of assignation, or prostitution, is guilty of a misdemeanor."

I find that prostitution in Iowa is a penitentiary offense.

While California and Iowa have drastic laws regulating prostitution, they are not enforced, and in those states the prostitute plies her vocation about the same as in other cities.

In some of the large cities, the police departments have an arbitrary rule, founded on no authority of law, under which they compel the inmates of houses of prostitution at certain intervals to submit to a physical examination by a competent physician.

In some cities quasi-reformers have been at work and have succeeded in reducing the houses of prostitution to a considerable extent. In one city where there were 120 houses of prostitution, the number was reduced to 57, and the reformers were jubilant over their success in stamping out, as they expressed it, this great evil. But let us pause and see whether they have really stamped it out. What became of the prostitutes who were inmates of the houses which were closed? Did they cease to be prostitutes? They did not; they simply moved to other less con-

spicuous quarters of the city, or became street walkers or clandestine prostitutes—but the reformers were satisfied. And this brings me to a phase of the question which I think is all important.

THE SEGREGATION OF PROSTITUTES.

I am not a believer in too much regulation for houses of prostitution. In this city recently, on account of the vicious male element which made its headquarters on the "line," (which in police parlance, the tenderloin district), it was necessary to adopt stringent measures to rid the district of the "Macks," those parasites who exist from the earnings of fallen women. This caused us to be very severe in our handling of the question. We do not allow women in the saloons on the line, to drink on a percentage, and have notified keepers of houses of prostitution that we will not tolerate macks or thieves. The effect of this has been that the tenderloin district of Louisville to-day presents a dismal picture.

In Louisville, the same conditions exist, generally speaking, as in the principal cities of the country. On the whole, I believe we have had too much regulation of houses of prostitution. And my friend, Dr. J. T. Windell, who has made a careful study of this subject, says: "The onward march of civilization is fast destroying that mecca of all young prostitutes; that mansion of sin and of old-time splendor; the gilded palace with the imposing front, with the wide portals that were closed in day time by storm doors, which hid the many colored glass entrance that opened into the broad hall, where the subdued rays from the many armed and shining chandelier only accustomed the eyes to withstand the brilliancy of the large double parlors in white and gold mirrors. This establishment was usually presided over by a woman of tact and business acumen, who understood the necessity of health as one of the pre-requisites of continued success in her calling; caring for her inmates at all times and insisting upon medical examination and attention at the first symptom of illness of any kind, and particularly of a venereal nature. Such diseases were then the exception instead of the rule, owing to more congenial surroundings, better food and clothing and a better class of men who frequented such places."

Time is fast changing this institution, and the first class house is a thing of the past. The madame of wealth and influence is no more, and the public houses of the present day are but tinsel imitations, the inmates, women of the lowest stages of prostitution, addicted to drink and the drug habit, and the cocaine fiend is now frequent-

ly in evidence, as well as the girl with the dope outfit. You may be surprised when I tell you that in this city of 275,000 people, there are not three first class houses of prostitution.

While the disorderly house has degenerated both as to numbers and conditions of the inmates, the house of assignation has reached a position in point of numbers at least, that far eclipses the public houses of prostitution. In this city alone, nearly one hundred of such institutions exist. The great increase in the number of professional street-walkers and clandestine prostitutes is the occasion for these houses. In the majority of such houses, accommodations are let to all applicants, no interest is manifested as to the health of the male or female, and no responsibility ensues to the house as a result of venereal diseases. Girls in poor circumstances, who work for small wages, and who constitute the largest percentage of the clandestine prostitutes, can seldom give themselves proper attention, even when under the care of a physician, and I venture the assertion that there were more cases of venereal diseases contracted last summer from these clandestine prostitutes at picnics, parks, etc., than were contracted in all of the public houses combined.

The reformers, instead of trying to reduce the number of public houses of prostitution, would try to increase them, could they but see the conditions as the police see them, and the results of abolishing houses of prostitution. This may seem strange, but after considering every phase of the subject, I am convinced that from any point of view, we have more to fear from the street walker and the clandestine prostitute than the public houses of prostitution.

A house of prostitution when strictly regulated becomes a losing venture for both proprietor and inmates, and the inmates seek other places where they may ply their wares with less restraint. Men who have any semblance of self-respect will not visit a house when they know that it is under police surveillance, but much prefer the secluded assignation house in a quiet section of the city, where the keeper has at her beck and call any style of girl. One keeper of an assignation house in this city has 25 clandestine prostitutes on her telephone list.

Of course, the ideal segregation of prostitutes would be to assign a portion of the town for this purpose, and compel every house of prostitution, assignation house and street walker to keep within this district. However, in the cosmopolitan city of to-day, the segregation of prostitutes is an iridescent dream. Of course, were we to build a new city, we would have the section of the

city at our disposal, but where a city has grown up and prostitutes and houses of assignation allowed to scatter, it is a very difficult task to segregate them. In this city, where assignation houses are not brought to my attention as disorderly, I tolerate them where the neighbors in a respectable neighborhood do not make complaint.

I have notified the keepers of houses and their inmates that I would not tolerate any abuse of petty grafting on the part of my subordinates, and that I was ever ready to hear their complaints and protect them, as I believe in treating these unfortunates with the kindness and charity to which they are entitled—it is very seldom you find a woman who is a prostitute from choice.

However, I doubt very seriously if much progress could be made in the prevention of venereal diseases by physical examination, unless such examination could be made by physicians of high integrity, who have made a careful study of venereal diseases, as my information as to conditions in Paris and other large cities of Europe, where they have very strict laws concerning such matters, is that the public prostitute soon becomes an expert at the art of deception and can prepare herself for the examination by removing evidences of existing venereal diseases, relying on the superficial examination of the physician. Then again, it is an easy matter to counterfeit the certificate of registration or to change the date. To be successful, this system would require in a city the size of Louisville, the services of, I should say, no less than twenty physicians, who should be men of the highest integrity. Of course, I do not mean to say that the medical profession of this city has not twenty men of integrity, but who among you would care for such work? The man possessing the ability requisite would necessarily command a large practice, which he could forsake only at a great financial loss.

COST OF VENEREAL INFECTION.

As I said in the opening, in my opinion, these diseases bode as great ill to the State as tuberculosis, which we hear so much about. Its effects are far reaching. The average person who does not come into contact with people of the underworld has no conception of it. Dr. Dilly, the Superintendent of our City Hospital, informs me that 75 per cent. of the female surgical cases at his institution are venereal cases, while 25 per cent. of the male surgical cases are from the same cause.

Political economy teaches us that a healthy man is worth about \$1,000 to a community—surely no man can be considered healthy who contracts a severe case of gonorrhoea or

syphilis. It practically destroys his worth to a community. If a healthy man is worth a thousand dollars to a community, is not a healthy woman worth as much? These diseases, leading as they do, to sterility in both man and woman, are, we might say, the greatest factor in race suicide. I should say that the principal cost of such diseases is the unhappiness they cause to mankind, and while I have no statistics to prove the assertion, it is my opinion that a very large number of the suicides could, if we but had the means, be traced to the two great venereal diseases, gonorrhoea and syphilis. During my experience as a police officer, many pathetic cases have come to my notice where homes have been destroyed and the lives of pure innocent girls wrecked by uniting in marriage with reckless young men suffering from disease.

As a secondary cost to a community from prostitution, we might consider the decrease in valuation of property in the neighborhood of sporting houses. While the houses rented for prostitution pay a large rent, as the city grows and prostitutes spread over sections, it greatly decreases the valuation of adjoining property. I have in mind a piece of property which originally cost \$10,000, recently sold for \$5,000, on account of prostitutes, and houses of assignation coming into the neighborhood. It is invariably the case that when prostitutes are compelled by the authorities to move, the houses are occupied by a low class of white people or negroes.

By publicity, we have made great strides in the handling of tuberculosis—in the warnings to the public showing the terrible effects of the disease. While on account of the nature of venereal diseases their very names are shunned by the public, I think some decided steps should be taken to impress upon the youth of our country the dire results of gonorrhoea and syphilis. The subject should be given more publicity.

This is a great field for a well-meaning philanthropist, and one in which the public needs education. Some of the millions of Rockefeller and Carnegie would bear greater fruit in this field than their efforts in other educational endowments.

DISCUSSION.

J. Garland Sherrill, Louisville: This subject is so large and it has been so well handled, that I feel I can add very little that is worth mentioning. It does seem to me, however, that this problem is best handled by the education of the youth. There are so many ways in which the evil can be hidden or covered under a cloak, that it can work its way and undermine the body politic in such a way that no one can fight it effectively, and the best way to reach it is

by education of the youth to a high, moral plane, as mentioned by Rev. Mr. Powell. This profession ought to go on record to aid in every way all efforts to abolish this great evil.

J. G. Carpenter, Stanford: As I said to-day, in my town we have now individual communion service in one church. I believe that in every church there ought to be an individual communion service to prevent contagious diseases, and an anti-gonorrheal and an anti-syphilitic annex; (Laughter.) to separate the pure from the vile, the contagious members from the non-contagious.

I was asked to take charge of a Sunday-school class, and I said, yes, if you will teach the prevention of gonorrhea and syphilis, illustrated with diagrams, I will take charge of the class, and teach a pure and undefiled religion. I do not hesitate to say that no man affected with gonorrhea or syphilis should be allowed to marry until he has been cured, the cure tested, and that he has been endoscoped and sounded, microscoped and telescoped, so to speak, and sigmoidoscoped, nor should he or she be allowed to commune from the general communion cup or break the bread having tainted lips and fingers. I say that scientifically and physically, spiritually and morally. (Applause.) He should be cured before he gets married. I tell you, ladies and gentlemen, doctors can do wonders. They should be preachers of righteousness and peace. As a profession we are doing a great work. We are getting better. (My brothers and sisters—Are we our brother's keeper?) Yes, and if we approach this evil in the right spirit and in the right attitude, we will wipe out these horrible diseases. It is too often through ignorance that we hear the recital of these sad tales of woe. For every 100 abdominal surgical life-saving operations, 50 per cent. have had to submit to life-saving surgery for pelvic disease, contracted from an uncured gonorrheal husband.

Let us turn on the searchlight of truth. Let us teach our wives, daughters, sisters, our mothers, brothers and fathers these evils, and let them be talked around the fireside, in the sewing societies, in the W. C. B. M. and the W. C. T. U. Let it be talked from the pulpit; let it be talked from the Amen corners, and at the weekly prayer meeting, and let them be talked from the mourners' bench, if necessary, and then we will soon convert the world in this matter. (Applause.)

T. A. Frazer, Marion: This is a problem or evil that confronts the American people. Dr. Carpenter has said some things that have great truths in them, and one of the greatest trouble to my mind in the prevention of the spread of gonorrhea or other venereal disease is that we as physicians are moral cowards; that we do not stand squarely with a good stiff back-bone, look people in the face, and tell them the truth. Only

a few days ago one of the saddest cases of gonorrhea I have ever known came under my observation. A beautiful young lady, the pride of her father and mother, the idol of her brothers and sisters, was married to a young man who had gonorrhea. He thought he was well. He thought he was cured. In about fifteen days after their marriage he consulted me. After getting what history I could get from him, I told him plainly that I believed that his good wife had gonorrhea. I told him that we could not definitely determine this without making a microscopical examination. I procured a specimen, had a microscopical examination made, and found this beautiful young bride suffering from gonorrhea. The chances are that in a few months, or probably in a few years, this woman will be laid in her grave, and her death ascribed to infection from her husband, who thought he was cured.

The druggists and nostrum venders are responsible for more uncured cases of gonorrhea than all else combined. But I want to say, in all seriousness, that we as physicians, should no longer be moral cowards; that we should no longer hesitate to express the truth along this line, and express it in language that can be understood, that each and every person with whom we associate and in whose homes we practice may be educated along this line. There is an obligation resting on the shoulders of the physician of today that was unthought of even twenty years ago. The social obligations that rest upon our shoulders are that we should stand upright and do our duty, regardless of criticism and regardless of results, financial or social.

Jere L. Crook, Jackson, Tenn., was asked to speak on the subject. He said: I would be false to every sense of obligation and prove myself unworthy of the splendid hospitality of this glorious city and of this great organization, if I did not express in some slight measure the feelings which I have of the splendid way in which this subject has been handled, and also to express to you the great pleasure which I have had in attending the sessions of the Kentucky State Medical Association. I shall carry back with me to my colleagues in the State of Tennessee, a great many pleasant memories of this meeting, and I am sure I have derived much inspiration by being with you, and I trust I may be able to impart some of the information which I have received at this meeting to the doctors of Tennessee.

The important subject which has engaged your attention tonight has been handled from many points of view by able men, men who are certainly thoroughly conversant with every phase of the subject. It seems to me, if there has been one point more particularly impressed upon the public and upon the members of this

association, and the visitors than any other during this meeting: Last evening, in the masterly address of Dr. Mayo, today in Dr. Ochsner's paper, and tonight in this symposium, it is that a very important obligation rests upon the man who has the title of doctor. The word, "doctor," as we all know, means teacher, and it seems that, at last, we are coming to the point where the highest function of the doctor is as a teacher. (Applause.) Those of us, who have been honored with diplomas from medical colleges, and who have subscribed to the doctrine of Esculapius, are not mere money-makers, or money gatherers; nor did we enter the medical profession merely or chiefly from the standpoint of earning a living for ourselves and our families, but there must be a higher obligation, a greater incentive, and a higher aspiration than such a mere financial aspect would grant. I have said, that the word, "doctor" means teacher. Teaching is the function of the doctor, and it is one of the highest functions. It is hardly necessary for me to tell you what has been accomplished in the way of spreading the doctrine of the prevention of disease. The doctrine of good health is being preached from the pulpit of every church all over the land, by the press of the entire world, and by doctors everywhere, and the members of the medical profession know what marvelous results are being obtained in diminishing the spread of tuberculosis. The first thing was to recognize our obligations and demonstrate to the profession itself and to the world what good we can accomplish by teaching humanity how to live, and to care for themselves. When our profession as a body resolved itself into its highest function of teaching very few people realized what it would mean to sick and suffering humanity. We are just beginning to realize what a marvelous influence our profession is exerting in carrying out its greatest purpose, namely, the alleviation of human suffering and the lengthening of human life. The only tribunal before which we can be justly arraigned is at the bar of mortality statistics. That is where we are to be tried, and if we do not lengthen human life and alleviate human suffering and have a higher standard of living, and a higher standard of excellence than our predecessors, then we stand as convicted criminals at the bar of mortality statistics. So, I claim, when we use our function as teachers, when we carry out the suggestion in the title of doctor, which the public gives us, we will be accomplishing the greatest good for humanity, because we know that the prevention of any disease is far better than to cure it after it has come.

Reverting to the points made last evening by Dr. Mayo and this afternoon by Dr. Ochsner, on Cancer, the keynote of these papers was to teach the people the necessity of prompt treat-

ment. We should teach each other as well as the public, the necessity of prompt diagnosis and early and efficient treatment. Whenever we, doctors, on seeing a patient present herself with symptoms we do not understand, indicating the presence of that dread disease, cancer, realize fully our obligation, we will recognize the fact that in order to discharge our obligation to humanity and to the patient, we must call surgical consultation and give the patient the benefit of operation before it is too late. That is the lesson taught in the papers of Drs. Ochsner and Mayo.

All phases of the social evil have been discussed. We have learned that we must be teachers and preachers of the gospel of good health, and Dr. Powell, who made such a splendid speech, said there is no higher function than the preaching of the gospel of good health and cleanliness, for cleanliness is akin to Godliness. The doctor is responsible for the manner in which he discharges his obligations as a teacher. This symposium has impressed most of us with the necessity of being teachers, teaching people the terrible dangers of this dreadful scourge of venery, and the place to begin this teaching, as has been said, is with the boys and girls in the public schools. More than 18,000,000 children go to school and all of them are to a certain extent under the influence of teachers. We can teach people the dread of venereal disease by beginning with those 18,000,000 of children in the public schools. Let us lend our efforts in the direction of having the public school system equipped with a staff of competent physicians, whose duty it shall be to visit the schools and preach the gospel of good health to these young minds when they are in a pliable receptive condition. I believe compulsory physical training should be incorporated in every public school, high school and university. I believe every single student should be forced to take a course in physical education which should be under the jurisdiction of the medical profession, not because we wish to apply to ourselves anything for gain, but because we are more competent by reason of our education and our habits of observation than anybody else, and that is the only reason. (Applause.) Doctors are not looking for jobs for political, personal, or social reasons, but we are trying in our humble way to help humanity live longer and be happier. The doctor will find one of his highest functions in teaching in the public schools. Let us, therefore, lend our efforts to having incorporated in the public schools a system of physical training and a system of physical teaching, because to educate the child to develop its body in a proper way without educating the mind at the same time would necessarily be an incomplete education, so the same doctor, who prescribes certain exercises which

will tend to make the abnormal child normal physically, should be competent to drill that child in the dangers which will beset its pathway through the indiscriminate abuse of the sexual functions. These children should be instructed in regard to taking plenty of fresh air, proper diet, and pure water to drink. By having our public schools equipped with physicians, these children will be taught the necessity of physical education; they will be instructed along the lines of proper calisthenics. The doctor in assuming his highest function as a teacher will be able to point out the dangers which beset every young boy and girl along life's pathway from abuse of the sexual function.

I thank you for the privilege of expressing my views on this subject and desire again to voice my appreciation of this splendid symposium.

W. B. Gossett, Louisville: When it comes to getting people to act, it takes several years to do so. About ten years ago, I read an article at Georgetown taking up the question of education in the public schools pertaining to the female high school by some female physicians, that is, educating them as to physiology of the females or girls. We all know that the health of the young girl has been ruined at a certain time of life because the mother did not talk to her daughter pertaining to her sexual organs, menstruation, and so on. The mother frequently goes to a physician and informs him that her daughter is feeling bad, and when the physician asks her whether she has talked to her daughter about menstruation, etc., she replies in the negative, saying that these subjects are too delicate, and she wants the physician to do so. In my paper I pointed out and suggested at the time that in the female high school a physician should be appointed to give several lectures a year upon these subjects. Let us go further and say, why not have in the female public school and in the male public school physicians to take up this question of physiology, as well as the subject of venereal disease. We all know that when we come to teach a young man with reference to his morals, he listens for a while and then goes ahead and does as he pleases. You want to scare him into being better; tell him he ought to be afraid to go out and show him what he will get if he disobeys the moral law.

I think it would be appropriate at this time to introduce a resolution of some kind, requesting that this matter be taken up with the authorities in control of our public schools to have lectures given in the female high school, and also in the male high school, or to have a chair established, and follow this matter up, and not stop this year with the introduction of a resolution of some kind. However, a resolution could be introduced to the effect that this matter be brought before the right authorities and such action taken as they deem necessary.

W. R. Ray, Shelby County: Now, Mr. Chairman, a famous preacher once said, that the proper way to raise children was to begin one hundred years before they are born. That statement was made by no less an authority than Henry Ward Beecher, of New York, and I believe in it. I believe that in order that children be properly educated, you have to educate these parents before them. If the parents are diseased, so are the offspring.

So then, if we are to properly educate our children in regard to these fearful diseases we should begin before they are born. This is the greatest and most vital subject that has come before the Kentucky State Medical Association for solution at any time in its history. I believe it is the greatest subject that confronts the people of our country today. When we see the vitality of our young manhood is being sapped by gonorrhea and syphilis—not only in this country, but in every country of the world—it behooves us as physicians to act for the good of our country and for mankind. I believe with Dr. Gossett that a resolution should be drawn up by which we can impress our State legislature to the great importance of these fearful diseases, and make a suitable appropriation, that some intelligent man could go before the colleges and schools of our country and lecture and explain the enormity of these diseases. Now, my friends, we know that in all colleges scattered over this land, education in this line is neglected. We know that the young men attending these colleges are allowed to do as they please. I remember some 26 years ago when I matriculated here in the city of Louisville as a medical student, I matriculated under that grand and noble soul that now sleeps here in the city of the dead, Dr. J. A. Ireland; he took great interest in me. He said I was “a nice-looking boy.” He said to me, “I want you to go to the City Hospital with me this evening, and I will show you some of the sins of our city and it may have a good influence on you.” So I went with him that afternoon, and oh, how horrible it was to me. I shall never forget, and it did have a good influence on me, and I have often thought if all the boys could see the fearfulness of gonorrhea and syphilis, as I did that afternoon it would have a good influence over them, and I make no doubt would save many of them from ruin and misery. I could speak on these lines for an hour, but as it is getting late, I will close, hoping that the legislature will take this up and that good results will come from it.

COUNTY SOCIETY REPORTS.

Adair.—The Adair County Medical Society met on November 2, 1909, with the following members present: E. T. Sallee, President; U. L. Taylor, Secretary; Arthur Waggoner, W. R. Grissom, W. F. Cartwright, C. M. Russell, H. B. Simpson, Garland Grissom, a young graduate, and Morris Jones, the horse doctor. We had no regular program, and we concluded to discuss the subject of Criminal Abortion.

U. L. Taylor led off in the discussion. He said: “Gentlemen of the Adair County Medical Society, the question of Criminal Abortion has become one of the leading questions of the day, abortion by the help of the doctors is becoming fearfully common; married women and girls are having this crime performed upon them until the whole country is becoming aroused to the enormity of the situation. Doctors who care more for money than they do for character are setting up sanatoriums and treating wholesale and retail all who come to them. There is crying need that something be done to arrest these practices before our state is hopelessly disgraced. Our laws fail to recognize criminal abortion as a felony until a child destroyed has arrived at the period of quickening. You cannot send a man to the penitentiary for producing an abortion before the time of quickening unless the mother is killed in the operation. I am of the opinion that a child one hour after conception has taken place is just as much a human being, as it is in one year or ten years, or at any other period of its life. We want the law so amended in Kentucky that any one producing an abortion at any period of the child's life will be guilty of a felony. Some of our doctors are in durance vile, for making a practice of this vile and loathsome business. In my long practice of more than fifty years, I have never tried to produce an abortion, but have always tried to prevent it, whether the woman wanted it prevented or not. I consider killing a child in utero just as much murder, even though it were but a month old as it would be to kill it after it was born. I want us to instruct our Representative and Senator to vote for such a law. I want us to urge them to use all honorable means within their power to have such a law enacted. I am ready at any time to sign such a petition.

Arthur Waggoner said he agreed in the main with what Dr. Taylor had said, but could not go as far as he had gone. He thought a doctor had a right under certain conditions to produce an abortion, to save the reputation of the woman in the case. He did not believe that a child was a human being, until it could be born and live. And he did not believe that a doctor was to blame for producing an abortion before that time. He was in favor of the petition to our

representatives of the Legislature to pass such a law with these exceptions. He did not believe in the word, quickening, but preferred the word viable, as expressing more, and thought it would be better understood. He said that the word viable meant a child that could live after it was born.

W. R. Grissom said that he believed that a child immediately after conception, was to all intents and purposes a human being, and ought to be protected by the strong arm of the law. He had been called on upon several occasions to produce an abortion, but he always told them that if they wanted murder committed, he was not the man they were looking for. He had upon several occasions advised the parents to send the girl away from home and try and save her character, and had sometimes succeeded in doing so. He was in favor of making every case of abortion a felony, and would vote to instruct our members of the Legislature, to vote in favor of amending the law to that effect.

W. F. Cartwright said that a child when first conceived was just as much a human being as it ever got to be afterward. It was just as much a human being as an apple sprout was an apple tree when it first came from the apple seed. If it were not a human being, what was it? Dr. Waggoner surely would not contend that it was a monkey. It must be something. I am in favor of instructing our representatives to vote for the amendment proposed.

E. T. Sallee was teeth and toe nails in favor of the amendment. He wanted to put out of business some old hags practicing abortion in his neighborhood. Really, he thought they ought to be hung, but as that could not be, he wanted them sent to the penitentiary for life. Some old granny women in his community were performing these operations regularly, and he really thinks the strong arm of the law—if it has any strong arm—ought to be invoked in favor of these innocents.

C. M. Russell was in favor of the amendment proposed, except in cases where a negro ravishes a white girl, and she becomes pregnant, then any doctor ought to have the right to produce an abortion on her. That raised the question as to whether or not a woman was ever impregnated in rape. A majority of the members thought she could not be. This ended the discussion, and the society voted unanimously to instruct our members to vote for the amendment to the law.

We had no program and had no further business, but every member present promised to do everything in his power to get a full meeting for the second Thursday in January, 1910.

U. L. TAYLOR, Secretary.

Christian.—The Christian County Medical Society met in regular session with the following

present: Drs. Young, Wright, Rice, Keith, Lacy, Stites, Tate and James O. Cook, President of the Kentucky State Pharmaceutical Association.

President Woodward called the meeting to order. R. W. Brandon was reinstated to membership.

J. O. Cook read the proposed amendment to the State laws regarding the sale of opium and its derivatives, and made a plea for our support in every way possible. J. H. Rice and J. Paul Keith were appointed as a committee to act with Mr. Cook, to see our representative and senator before the next meeting of the Legislature and secure their aid in the passage of this bill and all other bills as proposed.

F. M. Stites, our delegate to the State meeting made a full and comprehensive report of the State meeting, and expressed a desire to go again, and made us all want to go next time.

Jas. H. Young read a paper on "Drugless Therapeutics," which was employed by all and freely discussed. The society passed a motion asking the Journal to print this paper at an early date, also the paper of O. E. Wright, on Abortion, submitted some time ago.

J. PAUL KEITH, Secretary.

Franklin.—The Franklin County Medical Society met at 2:30 p. m., December 6, 1909, in the office of Drs. Williams and Mastin. Present: Barr, Reynolds, Jackson, Montfort, Williams, Mastin, Wilson, Daniell, Heilman, Ross, Minnish, Gayle, Garrett.

Minutes of previous meeting read and approved. Ordinance prepared by society, committee composed of Barr, Demaree and Williams, to present city council on the regulation of the milk furnished the city. Discussed and amended and passed. A committee of Williams, Barr and Minnish appointed to present it to the council and urge its adoption.

Secretary J. W. Gayle of the State Pharmaceutical Association was present and presented a bill which the Association has prepared to present the incoming Legislature for its adoption into statutes in regard to sale of opium and its derivatives, somewhat like the law in regard to cocaine; was discussed and by an unanimous vote endorsed by the society, and same committee of Barr, Williams and Minnish appointed to act in conjunction with the Pharmaceutical Association, and in any other legislation affecting the health of the Commonwealth, including such action as may be had in regard to Tuberculosis and the establishment of State Sanatorium and urge its location at some of the desirable and available locations adjacent to Frankfort, which offers most desirable and attractive sites.

Being the time of annual election of officers, the following were elected: Joe Barr, President; M. C. Darnell, Vice President; U. V. Wil-

liams, Secretary and Treasurer; N. M. Garrett, Delegate. Society then adjourned to partake of banquet by Dr. Barr, the retiring president, which was sumptuous and enjoyable.

U. V. WILLIAMS, Secretary.

Henry.—The Henry County Medical Society met in New Castle on Monday, Nov. 29, at 11 o'clock a. m. Meeting was called to order by O. P. Chapman, President. Present: J. F. Garvey, Louis Coblin, W. B. Oldham, E. E. Bickers, A. H. Kleiser, A. Wainescott, Webb Suter, A. P. Dowden, J. P. Nuttall, W. J. Morris, Everett Morris, A. M. Zaring, P. D. Harvey, V. R. Jones, I. N. Kelly, C. H. Wilson, Mr. E. A. Gullion and Owen Carroll.

Minutes of last meeting read and approved.

Petitions for membership from Isaac N. Kelly and P. D. Harvey, the same were both approved and both were unanimously elected to membership in the society. P. D. Harvey is located at Defoe and I. N. Kelly has located at New Castle.

Committee on Microscopical work made its report and suggested that one member of the society make a specialty of this branch and that the other members of the society render him all assistance they can by sending him their work.

Society adjourned for dinner which was served at the Castle Hotel for all society members and visitors.

Society again called to order at 1 o'clock.

There being several clinics before the society all further business was postponed and these cases taken up.

W. J. and Everett Morris, W. B. Oldham, Webb Suter, A. P. Dowden, V. R. Jones, and J. Fred Garvey reported cases.

Motion made that the President appoint a committee to ascertain the opinion of each physician in the county as regards special work, it being the desire of the society to have some member of the society to make a special study of each branch of medicine, in order that the physicians of the county may have a special consultant on any case in which he may need consultation.

The secretary reports for the month of November, 13 deaths and 21 births—12 white females, 2 colored females; 6 white males and 2 colored males.

A. P. Dowden will read a paper on Gastritis at the next meeting of the society and A. Wainescott and P. D. Harvey are appointed to discuss same.

Everett Morris will read a paper on Tuberculosis and Webb Suter and I. N. Kelly are appointed to discuss same.

After next meeting the society will inaugurate a quiz class and will quiz all members present on the subject selected instead of having

papers before the society. J. P. Nuttall and W. B. Oldham are appointed to select the subjects and quiz on the same at the January meeting.

This day being the regular day for election of officers, same was next taken up and the following were elected for the year 1910: W. J. Morris, of Sulphur, President; E. E. Bickers, of Port Royal, Vice President; Owen Carroll, Secretary and Treasurer; Webb Suter and V. R. Jones, Censors; W. B. Oldham, Delegate and Everett Morris, alternate.

There being no further business before the society, it was adjourned to meet Dec. 20, at 1 o'clock p. m.

OWEN CARROLL, Secretary.

Jefferson.—Whereas, It has been our misfortune to sustain a heavy loss in the death of Dr. William B. Pusey, a representative member of our profession; and

Whereas, We could never speak more highly of the gentility and gracious manner of any one as of our deceased friend and practitioner, and

Whereas, In the score or more years of his professional career he was loved by his patients and bore that same high regard from his profession; and

Whereas, His devoted family in their recent bereavement have lost a kind and indulgent husband and father; therefore, be it

Resolved, That, in the death of William B. Pusey, the Ophthalmological and Otological Section of the Jefferson County Medical Society has sustained a heavy loss; and that copies of this resolution be sent to his family and the State and County Medical Journal.

Signed,

WM. CHEATHAM, Chairman,

SAM BROWN HAYS,

ADOLPH O. PFINGST.

Committee.

Nelson.—The Nelson County Medical Society held its regular quarterly meeting at Bardstown, Dec. 1st. Called to order by the Vice President, S. B. Crume, but the President, H. E. McKay, soon came in.

There were present, H. E. McKay, B. E. Gore, S. A. Cox, R. H. Greenwell and Hugh D. Rodman, of Bardstown; J. B. Overall, Cox's Creek; S. B. Crume, Bloomfield; J. R. Cowherd, New Hope; W. Lucien Heizer and J. I. Greenwell, New Haven.

Reading of the minutes of the last meeting was dispensed with. The election of officers resulted as follows: J. I. Greenwell, President; J. R. Cowherd, Vice President; Hugh D. Rodman, Secretary and Treasurer; J. B. Overall, Censor for three years.

H. E. McKay reported a case of injury. A man 55 years old, was caught by a pulley or

tumbling shaft in a barrel factory and whirled many times around the shaft until his clothing was completely torn from his body and limbs, and was thrown a distance of ten or fifteen feet to the floor; was picked up unconscious with four ribs broken and otherwise bruised and mangled, who at the end of three days was rapidly improving with normal temperature and pulse and fully on the road to recovery.

S. B. Crume reported a case of a child three years old which had gotten a bottle of carbolic acid and put it to its mouth, but it was not known whether it had swallowed any of the acid or not. Grain alcohol was promptly administered and applied to the lips, and immediate relief followed, leaving no scar nor after-effects. So much for alcohol as an antidote for carbolic acid.

S. A. Cox reported a case of alcoholic poisoning in a child three years old, which had secured a bottle of whiskey and drank all that it wanted. When seen, was pulseless at wrist, respiration about 8 to the minute; was wholly unconscious. Treatment, stomach pump, artificial respiration, vomiting, strychnia, hot applications, washed stomach with warm saline solution, emptied bladder with catheter. Was unconscious about six hours and finally made a slow but complete recovery.

S. B. Crume read a paper on Pleurisy which was a good and practical paper.

John R. Cowherd said the paper was a good one and very instructive, especially the treatment of chronic pleurisy, such cases that the pleural cavity should be opened and puss let out.

He reported a case of pleuro-pneumonia in a boy 14 years old, which ran through the acute stages and was discharged as well; in about a week he was recalled and found the chest wall bulging, intercostal spaces obliterated; tried alteratives, etc., with no good results: called consultation, and an operation to let out the puss was agreed to, but refused by the family; the boy became very much emaciated, but after several months made a slow recovery by absorption.

W. L. Heizer said that in all such cases he believed in a good opening in the chest wall; did not think that a cut between the ribs as good as a resection of a rib. He advocated the laying aside of the muscles and running a ligature around the rib at both sides of the opening, to choke off both vein and artery and the removal of not less than one inch of rib which always gave free drainage and good results.

S. B. Crume, in closing, said that he favored aspiration first, if this failed he used the knife freely and if necessary, he removed a section of rib, that a good opening and free drainage was the cure.

W. L. Heizer read an excellent paper on Lar-

yngeal Diphtheria, with indications for intubation, its mode and results.

H. E. McKay asked if Antitoxine is given early, do you ever find intubation necessary? Answer—No.

He said he believes that antitoxine should be given early and in large doses; it is harmless; believes that we do not give enough nor repeat soon enough, but if intubation was necessary it should be done early; never wait until the patient is cyanotic.

S. B. Crume said he believed that we should give antitoxine early, but as to size of doses he would be governed by the age and condition of the patient; and that every doctor should be prepared to do intubation and do it when necessary before his patient choked to death. But that great care should be exercised so as not to slip the tube into the esophagus instead of the larynx.

J. B. Overall said he believed in the early use of both antitoxine and the tube. The tube should be used before our patient becomes cyanotic.

B. F. Gore.—"I have tubed two cases, both were tubed early and both got well. I believe, to get good results the tube should be used early. I saw not long ago a tube inserted backwards; how the child could swallow, I don't know, but it did well."

Hugh D. Rodman had never had but one patient tubed, that was done by Dr. J. M. Ray. I believe that antitoxine should be given as soon as a diagnosis of diphtheria is made, and its effects should be watched closely, and if improvement is not prompt, repeat the dose. If this is done, the tube will not be necessary, but if the tube has to be used, it should be done before our patient is dying.

W. L. Heizer, in closing, said he believes that tubing should be done by an expert; does not believe any doctor should use the tube, or rather try to insert it. He likes to treat diphtheria, malaria and syphilis, because we have a cure for all of them. Antitoxine for diphtheria; quinine and arsenic for malaria; the bichlorides and iodides for syphilis.

J. B. Overall read a very fine paper on "Scarlet Fever; Its Diagnosis, Treatment and the Best Means of Preventing its Spread."

Adolph O. Pfingst, of Louisville, read a paper on "Some of the Sequelae of Scarlet Fever, their Treatment, etc." This was an instructive paper, was heartily enjoyed by all present and did credit to its author, and the thanks of our society were given Dr. Pfingst for his efforts in our interest.

As the dinner hour had arrived and all were hungry, not much discussion of these last two papers was had.

A letter from J. W. Gayle, Secretary of the Kentucky Pharmaceutical Association, accom-

panying a proposed act to be presented to the next General Assembly, of Kentucky, regulating the sale of opium and its derivatives and compounds were read and on motion the proposed bill was unanimously indorsed.

A communication from National Secretary Simmons, accompanying a Resolution of the House of Delegates of the American Medical Association adopted at its last meeting was read. Said resolution requests all county societies to hold at least one open meeting each year, to which the public shall be invited to attend and participate, and which shall be devoted to the discussion of the nature and prevention of disease and the general sanitary welfare of the public.

This resolution was adopted, and the secretary was authorized to arrange for said open meeting to be held in Bardstown on the first Wednesday of June, next, at which time we are going to have a rousing meeting.

This was one of the best meetings which our society has held for some time.

We are improving and are going to continue to improve.

Adjourned to meet the first Wednesday in March and repaired to the Newman House, where the social feature was enjoyed by all.

HUGH D. RODMAN, Secretary.

Owen.—The Owen County Medical Society met in its rooms in the I. O. O. F. Building in Owenton at 10 a. m., Thursday, December 2, 1909, with the vice president in the chair and with the following answering to roll call: J. W. Potts, J. H. Chrisman, T. G. Connell, J. A. Estes, W. E. Foster, D. E. Lusby, K. S. McBee, W. B. Salin, A. E. Threkeld and George Purdy.

This being the annual meeting, no program was carried out as at regular scientific sessions, but some cases were reported by Drs. Foster, Lusby and Threkeld, after which the "Good of the Society" was taken up.

Several communications were read and disposed of, one of which was a letter from the Secretary of the Kentucky Pharmaceutical Association, presenting a bill which that Association proposes to introduce at the next General Assembly meeting, the Anti-Narcotic Bill. Our society approves the bill, but thinks it should include with opium, etc., acetanilid and other similar coal tar preparations, cocaine and derivatives, chloral and derivatives, chloroform and ether.

The delegate to the State Society reported a very successful meeting of the doctors of Kentucky, mentioning several matters of interest among which were the bills to be proposed for laws at the coming session of the Legislature. Besides the Anti-Narcotic bill, mentioned above, were the State Board of Health Appropriation bill, County Health Officers' Institute bill,

Abortion bill, Vital Statistics bill and Confidential Communication bill. The society passed motion to lend hearty co-operation to the proposed Abortion bill and assist in its passage. Simple Refraction, Defense Branch and the Social Evil were discussed.

Officers elected for 1910 are as follows: President, W. B. Salin, Owenton; Vice President, A. E. Threkeld, Wheatley; Secretary, George Purdy, New Liberty; Treasurer, K. S. McBee, Owenton; Censor, J. C. B. Foster, Monterey; Delegate, W. E. Foster, Owenton; Alternate Delegate, J. W. Botts, Owenton.

The program for the November meeting which had not been disposed of, was continued for next meeting with a general discussion of Syphilis, to be opened by J. A. Estes. After this announcement, the society adjourned to meet at 10 a. m., Thursday, Jan 6, 1910.

GEORGE PURDY, Secretary.

Pendleton.—The Pendleton County Medical Society met at the office of H. C. Clark, Wednesday, Dec. 8, 1909, with the following members present: J. H. Barbour, W. H. Yelton, John Wilson, Edwin Wilson, N. B. Chipman, H. C. Clark, W. A. McKenney, K. B. Woolery, O. W. Brown, M. A. Yelton, S. M. Hopkins, J. F. Daugherty, G. F. Henry, T. C. Nichols, C. H. Kendall, J. A. Caldwell, P. N. Blackerby, of Erlanger, visiting.

The meeting was called to order by President Clark, in the chair. This being set aside as a business meeting, and the last meeting of this year, we dispensed with the regular order of business.

The Secretary then read a communication from the State Pharmaceutical Association, in regard to a proposed law, regulating the sale and dispensing of opium, and after free discussion, a motion was made by W. H. Yelton, that our Senator and Representative from this district and county be asked by this society to vote and use their influence to have such a law passed. Carried.

On motion of John Wilson, the Committee on Public Health be instructed to inquire into and find out if there is any law to prevent itinerant spectacle vendors from imposing on the public. This committee is also instructed to find out just what these ignorant foreigners and other undesirable men are doing, and have the same published in the county papers, warning the laity of what they are doing. Carried.

On motion of N. B. Chipman that we proceed to elect officers for ensuing year, carried. The following were then elected to serve for the year 1910: T. C. Nichols, President; S. M. Hopkins, Vice President; W. A. McKenney, Secretary; K. B. Woolery, Assistant Secretary; W. H. Yelton was elected one of the board of Censors. Committee on Public Health.—N. B.

Chipman, J. Ed Wilson, N. H. Ellis. Press Committee—John Wilson, P. N. Blackerby, W. A. McKenney. J. A. Caldwell, critic. John Wilson was elected delegate to the State meeting for 1910 and 1911. J. F. Daugherty, alternate.

Promptly at the noon hour, we were ushered into the beautiful dining room at H. C. Clark's residence, where the wives of the doctors of Falmouth had prepared a most bountiful and elegant dinner of roast turkey and other things too numerous to mention. Where for three hours we spent the most pleasant time of our life. After dinner the following toasts were responded to. First, the Doctor. Mrs. T. C. Nichols, who in a few well chosen words, eulogized the doctors very highly. She said that she had been taught that the ministry was the highest calling that any man could aspire to, but she now believes that the doctor has a greater mission than the minister. She was very heartily applauded.

S. M. Hopkins, being called upon to answer the toast, related a very funny anecdote. The next, the Nestor of Medicine in Pendleton County. J. H. Barbour was called upon and responded to the subject, "Medical Ethics." The Doctor gave us one of his characteristic and most elegant talks. The Doctor said he had been practicing medicine in Pendleton county for fifty years and he had always tried to up-build the profession in this county. He has had a stormy time of it.

The profession has not always been what it is now. Surely the good works men do live after them, and the high standing of the doctors of Falmouth and Pendleton county is in no small measure due to the high ideals and moral precepts lived and practiced by this grand old man, in his every-day walks through life.

The next subject, Doctor to People. W. H. Yelton was responded to by J. Ed Wilson. The next subject, Doctor to Self. T. C. Nichols, president-elect. The doctor responded very happily. The next, What Our Society Has, and Has Not Done. Responded to by our retiring President, H. C. Clark. He said we had read and fully discussed 43 papers during the year, and that we had reported three times that many clinical cases.

We then closed with a song, entitled "The Doctor," composed by Miss Mary Clark, the beautiful and talented daughter of our host. Thus we closed our year's work in a blaze of song and glory.

W. A. McKENNEY, Secretary.

Trimble.—The Trimble County Medical Society met at Bedford in Dr. Conner's office, on Monday, November 22, and was called to order by the President, C. C. Fix. **Dr. McMahan**, after the reading of the minutes, reported a case of Dermatitis. The subject was discussed

by all members. The meeting was very interesting and profitable.

By personal request of Dr. Reed, chairman of the Committee on Medical Legislation, L. G. Contri prepared and read a paper on the general question of the use of Benzoate of Soda. After citing the opinion of many eminent physicians, closed by saying that Benzoate of Soda was known by the Egyptians; they knew its preservative property, but they did not use it in their food; they knew too much for that—they used it to preserve their dead bodies. We still have their bodies. Benzoate of Soda should not be permitted to be used as preservative; its use is harmful to the public health. Then L. G. Contri offered the following resolutions, which were unanimously adopted:

"Whereas, Public opinion has been much aroused over food adulteration, and varying expressions as to the benefit derived from using preservatives in the manufacture of food, have been prevalent, be it therefore,

Resolved, That the Trimble County Medical Society in convention assembled, unanimously declare emphatically against the use of Benzoate of Soda and all other preservatives in the manufacture of foodstuff, as in the opinion of the medical society, such preservatives are detrimental and dangerous to public health, and be it further

Resolved, That this Society is opposed to the adulteration of food of any kind whatsoever, and furthermore, be it

Resolved, That this society endorse the stand taken by the A. M. A., in its fight against food adulteration and endorse its action in appealing to Congress for immediate amendment of the National Pure Food Law.

Resolved, That these resolutions shall be published in the Trimble County papers, in the Journal of the A. M. A., and in the Journal, and a copy shall be forwarded to our Congressman and Senator.

In obedience to a letter from Geo. H. Simmons, General Secretary of the A. M. A., this society resolved to have two public meetings. One in December at Bedford, and one next January at Milton. The chair appointed two committees of three members each for the purpose of making the proper arrangements for these meetings. The committee from Bedford are Drs. McMahan, Conners and Fix; for Milton are, J. Calvert, Harwood and Contri.

The days of the meeting have not yet been decided on. The secretary was instructed to correspond with the State Secretary for the purpose of procuring speakers for these occasions.

Society adjourned to meet at Milton on Monday, Dec. 22, 1909.

L. G. CONTRI, Secretary.

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ARMY MEDICAL WORK IN THE PHILIPPINES.

BY HERBERT MCCONATHY, LOUISVILLE.

The army medical corps comprises men of all ranks, from privates to the Surgeon General. Formerly a great number of contract surgeons were employed, but at present there are only a few left. Contract surgeons do not belong to the regular army; they are civilians who are hired to do medical work. Legally, they have no rank and no authority, not even over their own hospital corps men, and I think the head of the department is wise in trying to get along without men of this grade. They wear the uniform and receive the pay and allowances of a first lieutenant. Practically, however, and especially in time of war, contract surgeons are treated just as other officers. I was a contract surgeon for five years and a captain of volunteers for one year, and I do not recall a single instance in which I failed to receive all the courtesy and privileges to which a regular officer was entitled. The West Point men, in particular, were extremely considerate and polite. Of course, some are not so pleasant to deal with as others, but taken as a class, the officers of our regular army are the most thorough gentlemen it has ever been my privilege to meet.

Parenthetically, I should like to say a few words about the abuses alleged to have been committed by our army during the Philip-

pine war. In the first place, our army is composed of young men taken from average American homes, very few criminals or other "undesirable citizens" gain admission, and these are speedily weeded out. During the war some of the volunteer regiments, in order to complete their numbers, were a little lax in this regard, but the average standard of character was very high.

Actual war, the fighting of large battles, did not last long. The Filipinos were soon dispersed, and they afterward resorted to all sorts of unlawful practices. Then the American soldiers began to see their comrades shot from ambush by men not in uniform, or killed by poison, or found the bodies of their friends showing the marks of torture so devilishly cruel as to be almost unthinkable by a white man. It was more than human nature could endure, and in a few instances our men retaliated; but on the whole, their patience and moderation were truly remarkable.

But to return to the medical work. Only during an actual campaign is a surgeon assigned to a particular regiment; usually he belongs to the post, and the changes in the garrison do not affect him. As a rule, sick call is sounded the first thing after breakfast, and any soldier has a right to present himself for treatment. A non-commissioned officer marches the squad of sick to the hospital, where the surgeon examines them in turn. Those that he considers sufficiently

sick he keeps at the hospital; to the others he gives prescriptions, which the hospital sergeant fills, and the men return to the barracks. In the book, opposite the name of each soldier, the surgeon states whether the man is to do full duty, only light work, to be excused from all work, or to go to the hospital. The surgeon's authority in this matter is absolute; the post commander may be positive that a certain man is only shamming to escape work, but he cannot refuse to allow the man to see the surgeon, nor can he order the surgeon what he shall do with the patient. When a doubtful case arises the best thing the surgeon can do is to put the man to bed and confine him to very light diet. No smoking is allowed in the hospital. A well man will not stand this for many days and if he is really sick it will soon be evident.

The surgeon has entire charge of the hospital, and although he is helped by his sergeant, he must oversee and be responsible for many things; the drawing of rations, both for his corps men and for the sick, and the cooking of the regular and special diets. He must see to his supplies of drugs, instruments, clothing, bedding, furniture, cooking utensils, and to what ambulances, horses and arms the hospital may possess. The surgeon also has charge of the sanitary condition of the whole post; he inspects the barracks and stables, examining ventilation, plumbing, bathing facilities, sewers and drains. He is often called upon to pass judgment on the men's rations. The wives, children and servants connected with the garrison are also under his care.

Besides these medical duties he often has to help when clothing and other supplies are distributed to the garrison, to act on court martial and on boards of survey concerning property that is lost or destroyed. In a large post these duties become very onerous, but in a small one they do not take up much time.

At the period when I was in the Philippines the post surgeon was also health officer of the town. It is very hard to make the natives keep their premises clean; they will bathe frequently enough, but they drop all slops, refuse and offal through a hole in the floor to the ground beneath. The wandering hogs, dogs and chickens devour most of this filth, but much of it soaks into the ground; it often smells abominably, and is doubtless the cause of many cases of sickness. But it is a custom of the country and very hard to eradicate. As long as the army was in charge we could enforce some degree of cleanliness, but as soon as the natives themselves were invested with civil power conditions became pretty bad in this respect. Fortunately, the sun is hot and the rains are

abundant; the filth is either dried up or washed away, so that the consequences are not nearly so bad as one would suppose.

The surgeon, of course, must accompany all expeditions of any consequence. I must confess the humiliating fact that I tagged along with the army for six weeks and never saw a fight of any kind. I did not hear more than a dozen or two of hostile shots. The greatest hardships I experienced were the heat and over-work in Chickamauga Park. It is probably just as well, for I came back alive, and many better men than I came home in a box.

There were several small "hikes" however, which I shall not forget soon. One evening I went out just after dark with half a company; they were hunting for some bandits. The guide led us through swamps all night. We dared not carry lanterns or torches for fear of warning the enemy, so we trudged along in inky darkness hour after hour, often up to our waists in mud and water, falling over logs, and being scratched by briars and stung by mosquitoes. It was heart-breaking work. Moreover, we found nobody but a woman and two children. Some weeks later we learned that our guide had led us within two hundred yards of where the bandits were camped. He probably had no intention of capturing them, and took us near them just for a joke. But he was a shrewd, plausible old rascal, and we could not prove it on him.

During the war and for two or three years afterward, the army was scattered in hundreds of little temporary posts, and all of them could not be given costly equipment. For instance, it was a long time before I could get a microscope. When I came to one station there were two very sick men in the hospital; the diagnosis was typhoid fever. They both lingered for some time; one finally recovered and the other died. In the light of my subsequent experience I strongly suspect that they had pernicious malaria. In some parts of the Philippines this is very prevalent, and people die of it by the hundred. One island where I lived for a year was called by the Spaniards, "the white man's grave," on account of the malaria. In most cases the organisms of this aestivo-autumnal type are so abundant in the blood that a diagnosis by microscopical examination is extremely easy. In the treatment, we used both quinine and arsenic, with a liberal diet, and had very fair results.

Outside of the larger towns there are very few physicians in the Philippines, the people are too poor to support them. When some one falls sick a neighbor will dose him with various decoctions of herbs and barks. They

are said to have some very good remedies, but for the most part, the people are too ignorant to prepare or to use them properly. Moreover, they place a very slight value upon human life, and are extremely fatalistic. No matter what descends upon them, be it a storm, an earthquake, sickness or a band of robbers, they shrug their shoulders and say: "It is the will of God."

They can hardly ever be induced to take any reasonable precautions against epidemic diseases. To them a quarantine is merely the white man's order, to be obeyed only while his eye is upon them. We once put some native police to guard a house containing a small-pox patient. As soon as the surgeon turned his back, they went inside, it was too hot in the street—and spent the time chatting and eating with the family. Any one could come in if he gave the guard a few bananas or a package of cigarettes. At night they all went home. The post surgeon was powerless; he complained to the mayor, who answered, "Yes, sir! I will see that your orders are obeyed." But nothing came of it. The war was over, and the civil government was in power, so that the army had no authority.

Nearly all Filipinos belong to the Catholic Church, at least nominally but their moral sense is very rudimentary, and they are densely ignorant. I do not wish to be understood to speak disparagingly of the Catholic Church in any respect. The church must use whatever material is at hand; it has to employ Filipinos as parish priests; the country is too thinly inhabited and the people too poor to support white men except as bishops and other higher officers. The Filipinos are distinctly an inferior race. They are a little higher than the negroes, but they are not white men and never will be. The parish priests know the church services and something of church history, but as to general matters they are almost as ignorant as the rest of the people. In times of cholera or other epidemics, the Filipinos erect little shrines to St. Roque in front of their houses, and walk in processions about the streets following the image of this saint. I tried to induce them also to clean up their premises and boil their water, but they would do nothing of the sort.

I went through two small cholera epidemics. At one place I plead with the people in the district about the town where we were stationed to take at least these simple precautions. They answered politely: "Yes, sir," and did nothing at all. A large proportion of them took the disease and died. In the town itself there was a mayor who had some Chinese blood; he was far above the

average in intelligence. With his help I selected one well that had just been dug on the outskirts of the town, and closed up all other wells. We built a tall fence about our chosen well and placed a man inside. He was kept a close prisoner, day and night, for nearly a month, until the epidemic was ended. A guard of American soldiers was kept over him continuously. We ran a long piece of bamboo from the well out through a hole in the fence. The man inside drew the water and poured it into the bamboo, and the people caught it as it ran out of the other end. In this way there was no chance of infecting the well. As a consequence, (at least I presume it was a consequence) of these precautions not a single case of cholera originated in the town, while the whole surrounding country was ravaged.

In my other cholera experience I was not so fortunate. I was with a company of native scouts in a small village far in the interior. One night a man had violent cramping, vomiting and purging. He said that he had eaten some fish in the house of one of the inhabitants, and I supposed it was ptomaine poisoning. We worked with him all night; at dawn two other men were taken sick; and then I knew what it was. I had taken no antiseptic precautions except to wash my hands once in a while; there was a fair chance that I had infected myself with the disease. There was no other doctor within thirty miles, and no telegraph. The only other white men were the lieutenant in command, one worthless hospital corps man and three or four ignorant Spaniards. The night's work had left me pretty well exhausted, and here was more work ahead. We had almost no medical supplies, as we were there merely temporarily to hunt out some robbers. That morning the practice of medicine seemed anything but a desirable occupation; for a few minutes I was as near to panic as I care to be.

We had a bad time for the next few days; two or three more of the native soldiers fell sick, and nearly all of them eventually died. Some lingered for several days, and I attribute their loss largely to the lack of proper diet and nourishing; we absolutely could not get the necessary supplies and equipment; we were too far away from civilization. A good many cases occurred in the town; some had died before our soldiers took the disease, but the people hid it from us and denied that it was cholera for fear that we would put them into quarantine.

After numerous and urgent messages our lieutenant received orders to leave the town. The soldiers were to go one way and I another. It was sixteen miles to the nearest

post, and part of the road was impassable to wagons, so I went on foot and had two natives carry my belongings. The country was full of bandits and I had no doubt that my two bearers would have been glad to run away with my goods, so it seemed a little lonesome to start out that morning. But I made the men walk ahead, and carried a good shot-gun over my arm; and the joy of getting out of that plague-stricken town made the day one of the happiest I ever spent.

I must admit that I did not have very good success in treating cholera: the method of continuous hypodermoclysis of hot saline had not then been invented; or at least, I had not heard of it. Besides, my patients were all natives; they make little or no fight against disease, but passively lie down and die, like cattle.

Small-pox is also very prevalent in the islands; in most districts one rarely sees an adult native who is not pock-marked. I visited many cases, both in white men and natives, and nursed a few. Strange to say, although I have been vaccinated probably forty times I have never had it take. Possibly I am naturally immune, but I always take the precaution to re-vaccinate myself every time I visit a case. The government surgeons, both military and civil, continue to vaccinate the Filipinos persistently and in time this disease will be stamped out, as has been the case in Porto Rico.

One of the most dreaded of all diseases in the Philippines is dysentery. They have both forms, the bacillary and the amoebic. As a rule, the symptoms of bacillary dysentery are more acute, but the amoebic form is harder to cure. When I was there we treated the bacillary type with a single large dose of magnesium sulphate every morning, and gave a little morphine and atropine after the bowels had acted freely. This usually gave very satisfactory results. For the amoebic form we used colon douches of a dilute solution of quinine. The results were only moderately good. In the latter stages of both forms we sometimes used a douche containing a little silver nitrate to help in the heading of the ulcers. This is sometimes rather painful, but usually efficacious. When the surgeon has a microscope the diagnosis between the two forms presents not the slightest difficulty. Although in the amoebic form the stools are full of bacteria of all kinds, yet the amoeba are so abundant and so easily recognized that a mistake is almost impossible. Of course, the patient may have both forms at the same time, but this is rare.

At present the army in the Philippines, that is, the white soldiers, occupy only a few

large posts, and garrison life is usually pleasant enough. When I was there, however, the smallness of the posts and the infrequency of communication kept us dreadfully isolated. The country is wonderfully picturesque, but after looking at the same scenery day after day for several months, it ceases to be exciting. In some localities there were duck or snipe or pigeons that we could shoot, and in the mountains there were deer. But for the most part our principal occupation was to try and kill time. It was very hard to read, especially at night, as the mosquitoes and other insects flocked about the lights by the thousand. Consequently, we smoked and drank and played cards more than was good for us. The only alternative was to visit with the natives. We did this, also, a large part of the time, but it is not very interesting. Their conversation is limited to few subjects and is hardly edifying, and as to the women, only a few of them are good-looking, according to our standards. Besides, there is the question of language. The native languages are numerous; one strikes a new one at almost every different post. They are quite difficult, for they have no kinship with any European languages. In comparison with them, Spanish seems very simple and easy. In nearly every village there are a few people who speak a little Spanish, but the great mass of the natives do not understand it at all.

The surgeon had more diversions than the other officers, for if nothing else happened, there were numerous accident cases to treat, either among the garrison or the natives; we had an excellent experience in this line. Another benefit of the service was that it taught self-reliance. In the vast majority of cases there was only one surgeon at a post; the next post might be ten, or forty miles away. It was usually impossible to get a consultation in less than two or three days. The surgeon had to rely upon himself absolutely, and many a time it made him sweat. It was a hard school, but a good one. It also taught us how to run a hospital, and take care of hospital supplies and property.

In short, Philippine service in those days was full of vexations and troubles, but it also had its pleasures and moments of excitement, and I am very glad that it formed part of my life.

Alcohol as a Causative Factor in Insanity.—McKinniss' study includes 520 male patients. In 46 per cent. of these, alcohol either alone or in combination, was an important etiologic factor. In 13.5 per cent. they were classed as alcoholic psychoses. In 41 per cent. of the imbeciles and 34.5 per cent. of the epileptics, alcohol was responsible for their commitment.

SPLANCHNIC ARTERIOSCLEROSIS.

By O. P. NUCKOLS, LOUISVILLE.

Physiology has taught us that the normal supply of healthy blood to the various tissues and organs of the body, is a necessary prerequisite to health and normal organic function.

The arterial system with which our subject has to deal, is the great "highway" so to speak, by which the blood current, loaded with its nutritive pabulum, has to reach these various tissues and organs. If these blood channels become diseased, and as a result of which the blood supply is diminished, nutrition suffers and degeneration and loss of function result.

It is an old and oft-repeated saying, "that a man is just as old as his blood vessels," and from a study of insurance reports and other data, it would seem that there is a very direct relation between the condition of the vascular system and longevity. While this is true in a general way it is not my purpose in this paper to deal with the subject of general arteriosclerosis, except by way of an occasional reference, but to confine my remarks principally to the blood vessels of the viscera.

Visceral arteriosclerosis has attracted quite a good deal of attention in the last few years, and there is evidence to show that a large per cent of all cases of general sclerotic disease of the blood vessels begins in some part of the splanchnic system.

Harlow Brooks, of New York, in an analysis of 400 cases, has found at autopsy, that in 368 cases the visceral blood vessels were mostly or exclusively involved. If this ratio is even approximately correct, as it applies to all cases of arteriosclerosis it shows the extreme importance of interrogating early the primary organic symptoms that lead to such widespread vascular changes. When we consider that the splanchnic blood vessels are capable of extreme dilatation, and that a very large per cent of the entire blood contained in the body, may be stored in them, we can at once appreciate the results that may follow any decided change that may take place in the walls of these blood vessels.

On account of the natural inter-dependence of the different viscera it becomes apparent that when one organ becomes affected by vascular changes, it produces more direct organic symptoms than when the condition is more general. This is due to the fact that the functional equilibrium existing between the different organs is broken, and the viscera receiving the normal blood supply functionates normally while the organ whose

blood supply is interfered with by pathologic changes in the blood vessels, is likewise reduced in functional activity. This point is well illustrated in the gradual and symmetrical decline in the power of the different viscera, as age advances where general arterio-sclerosis exists.

The arteries that supply the viscera, for the most part belong to that class of blood vessels that histologists designate as the "medium," and their trunks are possessed of thick and well-developed muscle coats. This seems to be physiologically necessary to accommodate the alternating blood supply during the period of activity and rest. Arterio-sclerosis, as its name implies, is a sclerotic change in the walls of the blood vessels, producing, as one of its end results, narrowing of the lumen of the blood vessels, with its resulting anemia of the tissues supplied, ultimately producing functional and cellular change.

There have been many theories advanced in regard to the pathology of the disease, but it is pretty generally conceded that sooner or later all three arterial coats become involved. It is to my mind primarily a true hypertrophy of the muscular coat of the artery, in so far as it involves the splanchnic blood vessels. It is a fixed law of muscle fiber that increased use—of course, within certain limitations—brings on increased development, and when these blood vessels become frequently over-distended, in order to propel the blood current through the finer capillaries it calls in to increased action, the muscular fibers of the media, and as a result of this increased work the middle coat becomes thickened. Hazenfeld states that microscopic findings show that arterio-sclerosis with thickening of the intima and media to a moderate degree is quite common in the splanchnic system. In the smaller vessels moderate thickening tends to narrow the lumen of the vessel, and impede the circulation, when as a result of the stagnation of the blood current there is a deposition of the calcareous elements of the blood and calcification of the vessel wall takes place in many cases. Calcification is, however, more apt to take place in elderly people and in well-advanced cases.

Etiology. The etiology of arteriosclerosis has been the subject of much discussion, and the theories advanced are about as numerous as those who have discussed it, which goes to show that the true nature of the causative factors are yet quite problematical.

I need scarcely mention that syphilis, lead poisoning, alcohol, gout, gluttony, occupation, etc., have been assigned as productive factors. Natural wear and tear may be as-

signed as what we may term a physiological cause of many cases in the latter period of life.

Heredity no doubt plays an important role and we may have blood vessels of poor quality, that soon yield to the strain of overwork and take on degenerative changes.

There is no doubt but that the quality of arterial tissue has a great deal to do with the production of the disease, just as some can stand greater muscular exertion without injury than can their less fortunate neighbor. So it is that nature endows some with blood vessels that stand the strain of carrying on the function of circulation with less damage from wear and tear than others.

While any one of these factors may enter in as a contributory cause of general disease, the most frequent and principal cause of visceral sclerosis, I believe to be overwork of these special arteries, and especially does this apply to the blood vessels of the digestive system.

Overloading the stomach with highly seasoned food causes plethora of the blood vessels of the digestive system, and especially tends to bring on sclerosis of the blood vessels of the stomach, pancreas and intestines.

It is an established fact that Angina Abdominalis, as it is sometimes called, is in nearly all cases the final result of table abuses. I believe that the whole question of longevity is a question primarily of the condition of the blood vessels of the splanchnic system, and especially the organs of digestion any impairments of the blood supply of the organs of digestion brings as its natural result impairment of function, and the first step toward the mal-nutrition that characterizes the decline of age. This can only apply to pure senile decay, and I might say many local diseases that are produced by defective nutrition of the part.

Hypertension by most writers is held to be an important factor in producing sclerosis of the blood vessels, while this is true as regards the production of the disease in general, it does not apply so much to visceral disease, but on the contrary. I believe the disease producing changes in the caliber of the splanchnic blood vessels, precedes hypertension in the large majority of cases and acts as a cause rather than the result. Even when the caliber of the blood vessels are reduced in certain areas, the tension of the blood vessels may or may not be raised; the action of the vaso-motor nerves may be brought into play, and dilatation of the capillaries may take place in other areas, and the general blood pressure becomes equalized and not increased. This compensatory func-

tion of the circulation has to always be reckoned with before we can place too much stress on the presence or absence of hypertension.

Occupation has been attributed as an important cause of hardening of the arteries, and especially those who perform hard manual labor, which no doubt is an important factor in producing the disease, yet those who labor hard are, as a usual thing, heavy eaters, and oftentimes, also, heavy drinkers, and likewise so overtax the powers of digestion and assimilation that as a result of imperfect metabolism, the blood becomes loaded with toxins that do more real harm to the blood vessels than the work they do.

Every one who has observed, has noticed the increased force and volume of the heart beat after the ingestion of a full meal, and we cannot fail to interpret the significance of the frequent repetition of such a process upon the integrity of the vascular system supplying the abdominal viscera.

Various toxins circulating in the blood produce irritation of the endothelial lining of the smaller capillaries, which sometimes results in hyperplasia, impeding the flow of blood through them, thus raising arterial tension and increasing the work of the muscular fibers of the larger trunks. Mental work and worry may act as an important factor, especially in producing sclerosis of the cerebral vessels. I do not wish to put myself on record as attributing too great importance to visceral sclerosis, or to gormandising as a cause, but I do believe the subject has not received the attention it should, and when the damage is done, and the various organs begin to suffer, the diagnosis of heart, kidney or stomach disease is made, when the real disease is in the blood supply of these organs. The fact that such a large part of the arterial system is hidden away, and not subject to either observation or palpation, makes it an uninviting field, and difficult to arrive at definite conclusions until the disease is well advanced, and the more superficial vessels become involved. This one fact has probably caused its earlier symptomatology to be overlooked, and the primary lesions escape attention until too late to do good.

The gross symptoms, that characterize the more advanced and general disease, need not here be enumerated, for I take it that every competent practitioner is at all times on the alert when making examination of any one beyond the middle period of life, and will readily detect the advanced cases of general disease, but such is not the case with the early cases of organic disease. The symptoms are often vague and misleading, and

frequently impossible to arrive at any satisfactory conclusions, until some of the more pronounced symptoms arise. It also often requires patient and painstaking study of a diagnosis by the process of exclusion.

Splanchnic arteriosclerosis in many of its early manifestations has many symptoms in common with splanchnic neurasthenia, and it is only by the condition of the circulation itself that we may be able to make a differential diagnosis.

The early thickening of the muscular coat frequently gives rise to arterial spasm and pain. Where the coronary arteries are involved the frequent attacks of anginal pain is a quite familiar symptom. Spasm of the renal arteries is not only attended by pain, but the temporary anemia of the kidney produced, may be followed by almost complete suppression of urine.

However, one of the most characteristic and generally present symptoms of early involvement of the visceral arteries, is the suppression of function of the particular organ whose blood supply may be interfered with by these pathologic changes. The force of the entire circulation may be weakened as a result of disease of the coronary arteries, the nutrition of the heart muscle itself becoming impaired. As a result of this impaired nutrition, the patient may complain of palpitation, shortness of breath, tire easily, and also suffer from syncopal attacks. In the cerebral form the most constant symptoms are headache, vertigo, gradual loss of memory, and general mental apathy. These cases frequently complain of temporary loss of consciousness and aphasia may present as a symptom.

In a case of my own the most aggravating symptom was frequent and persistent attacks of what might be called "cerebral asthma" that came on shortly after going to sleep.

It has been shown by comparatively recent investigation, that the abdominal organs are much more frequently involved than was previously thought to be, and gradual decline of the digestive function, attended with, or preceded by vague and otherwise unexplained anginal pains, should arouse suspicion, and call for close inquiry into the previous history. It is in these obscure cases that the history of the case often throws a good deal of light on the subject. There is scarcely any class of diseases that calls for more patient inquiry into the personal and family history and habits, than does the one of early arterial disease. It is in the early cases before any general symptoms become manifest, that the ophthalmoscope may lift us out of the quagmire of doubt into the clear sunlight

of certainty. I believe that all such doubtful cases should be examined with the ophthalmoscope and ascertain the condition of the blood vessels of the fundus. It is a peculiar fact that these retinal vessels show sclerotic changes very early and often make the diagnosis of renal or other arteriosclerotic diseases positive.

It has recently been shown that the acute infectious diseases play an important part in the pathology of arteriosclerosis. A careful inquiry should be made along this line, to find out if the patient has had typhoid fever, diphtheria, influenza, scarlatina, pyemia, or other infectious disease. Typhoid fever seems to be especially prone to the production of sclerosis of the abdominal blood vessels.

These are some of the early symptoms and manifestations that should attract attention, and should the case be more advanced there will be coupled with them the hard radial, tortuous temporals, moderate cardiac hypertrophy, and other more advanced and general symptoms.

The real object of this paper and the importance of this subject is based upon early recognition, and early treatment. The time is rapidly advancing when physicians will be expected, and I might say employed to stand at the threshold of disease and guard the portals of entry and so far as possible, prevent the entrance of every foe and disease of the blood vessels will be no exception to the rule. The treatment I may say is almost entirely prophylactic, as regards further damage than exists at the time the case presents itself. If the patient is living a rapid life, and indulging in table and other abuses, the duty of the physician, is to have him call a halt, and take life easy. The prophylactic treatment may be expressed in very few words, that is, live naturally and normally. We should advise the patient that for his or her violations of the laws of nature, retribution may loiter on the way, but is sure. Medically, the treatment directed to the real pathologic changes that have already taken place in the blood vessels, may be summed up in a very few remedies. Trunecek's serum, that is intended to supply the normal salts of the blood serum, has been used with good results by some, and especially does it seem to do good in advanced cases with calcification. Iodide of potash in some of its milder forms, my preference being iodalbumin, is possibly the most beneficial remedy we can use for removing the infiltration into the arterial wall, and any inflammatory exudate that may exist in the surrounding tissue. It seems, and is claimed by some, to have a beneficial

effect in arresting the further progress of the disease. Where high arterial tension is present the continued use of the remedy has a very beneficial effect in lowering blood pressure. The nitrites and other vaso-dilators are useful. To summarize the treatment briefly, I would say that the management should seek to eliminate the factors that produce the trouble in the particular case in hand. The particular organ involved should be relieved, so far as possible, from over-functional activity; if the cerebral vessels, the brain should be relieved from overwork and worry; if the digestive system, the work of digestion should be simplified as much as possible; and if the kidneys, the work of elimination should be carried on by other means, through the skin and bowels and the work of elimination lessened by regulation of diet.

In conclusion, the treatment of the damage already done, should be symptomatic, directed to the organ or organs involved, combined with such hygienic and other measures as will prevent further invasion.

DISCUSSION.

Carl Weidner: The subject of arteriosclerosis is attracting more and more attention as time goes on, because it seems that it is a disease which occurs more frequently in this age, and we recognize it more often than we formerly did.

As to the causes, as the essayist has indicated, our abnormal methods of living, no doubt, form the basis of what we might call the normal production of arteriosclerosis in the aged and in the prematurely old. Whenever we find a person in middle life suffering from arteriosclerosis, we should look out for some abnormal cause; something that acts as an abnormal irritant to the vascular system. Any prolonged increase of pressure will lead to arteriosclerosis. That is probably the most fundamental cause. Of course, it occurs in primary lesions of the heart, and in primary lesions of various other organs of the body, and is aided by certain toxic agents. Dr. Nuckols has mentioned alcohol and lead poisoning, and he has also dwelt upon syphilis as factors in the production of arteriosclerosis. It has been shown that syphilis undoubtedly plays an exceedingly important part in the production of arteriosclerosis in the middle-aged or young. I have seen persons between the ages of 40 and 45 who showed marked arteriosclerosis, and most of these gave a history of syphilis.

The essayist believes the beginning of the process is in the hypertrophy of the muscular coat, but I think he is wrong there. The muscular coat, no doubt, responds to an irritant and to the increased blood pressure, but the main process is one of degeneration within the inti-

ma, the development of abnormal fibrous tissue in the media and therein lies the danger. The muscle is replaced by fibrous tissue and the blood vessel, instead of sending blood to the organ at regular intervals, becomes defective in sending this blood supply to the organs.

Dr. Nuckols has outlined the symptoms very well. We know that the main symptoms consist of the function of the organs supplying the vessels. I have made diagnosis of abdominal arteriosclerosis where I had to deal with disturbed function and pain of an obscure character.

The subject is one of very wide interest. We are coming to realize more and more that, in order to prolong our lives, we must go back to the prime laws of nature. I think the American nation particularly is interested in this; we are living too fast, and that is probably one of the most important lessons we have to learn in preventing a condition of this sort.

Wm. Bailey: I regard arteriosclerosis as an example of the same principle that we see in the vegetable kingdom. The apple, for instance; after it ripens, changes occur in the stem that supports the fruit and it drops off. In the same way, I feel that there are changes which take place in the aged which are more directly responsible than anything else in the production of arteriosclerosis. At the same time, I am pleased that the doctor mentioned the possibility of a localized arteriosclerosis produced by changes in the function, or changes in the circulation of the organ resulting in changes in the function. I think this is an important point, and if a man has arteriosclerosis, then as a prophylactic, to prevent further progress of the condition, he should get back to the simple life.

I agree with Dr. Weidner that specific disease very often explains arteriosclerosis occurring between the ages of 40 and 50. No man living a temperate life should be subject to arteriosclerosis at 40 or 50. Most of these cases have a history of specific disease.

Curran Pope: I would like to say just a few words on this subject.

First, in regard to the diagnosis of localized arteriosclerosis. I have, on a number of occasions, made a diagnosis of localized arteriosclerosis in the brain, occasionally in the cord and sometimes in the abdomen, but I must freely confess to myself that my diagnosis has not been a real and genuine diagnosis. I do not believe that we are able as a rule to make a straight out-and-out diagnosis of localized arteriosclerosis; I am inclined to think that we allow ourselves to assume a diagnosis rather than to make one. We assume, from certain symptoms, that we have to deal with a localized condition of arteriosclerosis in any particular organ or region of the body that may be brought under our observation. For that reason I have

always looked upon it more as an assumptive diagnosis than as a genuine one.

I would like to amplify just a little bit the doctor's somewhat limited therapy of the affection. In the first place, it is a matter of prophylaxis, and I think the essayist has omitted several of the most powerful methods which the medical profession has at its command. One is regular, systematic and mild exercise, preferably in the open air. The second is the use of cold water, applied to the external surface of the body, both in early and late life. There is probably no agent by means of which the vasomotor and nervous systems, and their correlated blood vascular relations in the abdomen and brain, can be so rapidly and so certainly affected, as by the application of hot or cold water, or alternating the hot and cold water upon the cutaneous surface. The influence of this remedy upon the various levels of the vasomotor system tends to keep the blood vascular system of the entire body in a flexible and pliable state. As the essayist has stated, the blood vessels of the splanchnic area, consisting as they do, of well marked muscular coats, are brought under the influence of hydrotherapy, and are made to preserve actively their muscular function; they do not tend to atrophy, they do not tend to sclerose with anything like the rapidity they would if untreated by hydrotherapy.

Further, I would amplify the essayist's therapeutics after the trouble has commenced. In the first place, in my experience, the average medical man is too anxious to reduce the blood pressure. I have been studying blood pressure for a number of years, and I have long records of cases, and I would caution every man who takes a blood pressure instrument in his hand, that he must not attempt, in those cases who have genuine arteriosclerosis, to reduce the blood pressure to normal. If we have a partially sclerotic artery, we must not reduce the pressure to such an extent that the blood stream cannot be driven through the artery. As soon as we have to do that we are actually favoring the very condition we are trying to prevent. What we want to do here is what we would do with a stream of water through an injured hose; we want to keep the pressure of that water at such a point as will not further injure or break the hose; for, after all, the greatest danger lies in the possible rupture of some miliary aneurism which may be forming in the brain. How can we reduce the blood pressure within limits that are reasonable for people in middle or later life?

In the high-frequency current, applied by the method of auto condensation and conduction, we have a remedy that will, I think, with almost unfailing certainty, bring the blood pressure of the patient down to the level desired.

At the same time, we can raise the metabolism of his tissues, lift the load from his kidneys, steady his heart, and lessen the blood pressure by producing a mild, pleasant, perspiratory effect, and in this way bring the individual within the safe limits of blood pressure, prolong his life, and enable him to live in safety and in comfort.

(Concluded on Page 1221.)

PLEONEXIA.

By J. HUNTER PEAK, LOUISVILLE.

Synonym: Pleonectia. A mental disease characterized by greediness and morbid selfishness.

This is a disease recognized in all walks of life, but which concerns us most, as history teaches us that we used to find it in our noble profession which has done so much for suffering humanity, and has suffered so much from man's inhumanity. My only excuse for the scientific discussion of this subject is that we, through a full deliberation of the question tonight may arrive at the very best means of prophylaxis, and in the language of our Immortal Proctor Knott, "I want to disavow any further interest in the subject than which I have stated, any more than I have in an orange grove on the bleak summits of Greenland's Icy Mountains."

This is a functional, nervous disorder in which no definite, known anatomical changes underlies the morbid phenomena. It is essentially a psychosis and the dominant symptoms are attributable to disorder of the cortical areas of the brain. The disease is to be regarded as a definite one, having a certain, as yet, unknown pathological basis underlying it.

Etiology. Of predisposing causes, heredity is the most important. In about sixty per cent. of all cases, there is a history of some neurosis, or psychosis in the parents. Alcoholism and other excesses may have something to do with its production. More cases occur in the country districts than in cities; more in temperate climates and especially do we find it among "ill-bred peoples." The American statisticians show a preponderance among males. The Europeans state, it occurs equally among males and females.

Bad methods of education and bad family training undoubtedly tend to promote the development of this disease. Another important, single factor is fear and envy—fear of a neighbor's preferment and envy of his success. The disease can be developed by imitation, noticed among those who associate with a "knocker." All kinds of excesses are contributory causes of the disease. In Europe some stress is laid on "itching ears."

The dyspeptic and those of a bilious temperament are especially susceptible.

Age does not seem to be a causative factor, as it is manifested in all periods of life, but rarely do we observe it after the one hundredth year; few people live longer.

Symptomatology. The patient often feels the attack coming on; it may be for several hours; they become nervous, irritable, ugly and often giddy. The attacks may sometimes be sudden. They immediately look for some one with a kindred spirit, some one or anybody. Then he begins to talk. The face is pale and flushed by turns. The eyes are open, but maybe the pupils are dilated with envy; the head is usually drawn to one side, and one, or both, shoulders are shrugged.

There is slight febrile disturbance; the temperature may rise 1 degree F., but rarely more than this; pulse rapid and marked arterial tension, and sometimes there are wild movements of the hands.

Time of Attacks. The moon and the seasons seem to have no influence on the disease. About four-fifths of the attacks occur between 8:00 a. m., and 10:00 p. m. The rest of the time most people sleep.

Mental Conditions. Some think that there is a certain amount of deterioration, manifesting itself in a bad memory, ill temper, morbid selfishness, and at times, vicious impulses may appear.

True Pleonexia is not compatible with great intellectual endowments.

Physical Condition. The physical stigmatae are mental feebleness, moral insensibility, irritability, wayward and vicious impulses, lack of will power and logorrhea.

Visual anaesthesias—Resulting in the production of concentric limitations of the visual field, cutting off the view of all the good and great qualities in our associates and neighbors.

Hearing is sometimes diminished, so much so that no high notes of praise of our friends are ever heard. In fact, complete anesthesia of the acoustic nerves may occur.

In taste there is a marked disturbance. In fact, there is sometimes shown by the patient, very bad taste.

Smell is not abolished, but the patient often makes himself very malodorous to others.

Sometimes the face is drawn to one side simulating paralysis of the opposite, but it is not so; it is only the result of co-ordinate movements of the muscles of that side of the face, when he "winks the other eye." The eye palsies show themselves most often in insufficiency of the internal recti. The eye has an outward rotation.

There may be palsy of the larynx. The ad-

ductors are involved so that the patient can not speak above a whisper. This condition is known as aphonia pleonexialis. The paralysis is not so great but that the adductors can be approximated in coughing, but they never "cough up." The adductors of the larynx, the tongue and other muscles of articulation are never so affected that he can not make himself heard and while "whisperings" show mental deterioration, many indulge, showing the loss of all moral responsibility.

Pathology. The body of the pleonexiaes show no skin eruptions or ulcers, but they are sometimes "hide bound" and occasionally you see "moss-backs," and some have the effect of excoriating other people.

Deformation of the occipital bone, or the atlas, may occur, compressing the upper spinal canal, causing the same effect as a "weak back-bone." The brain is nearly always small, but it is by no means a constant thing, as sometimes, supposedly great men may show signs of the disease in ugly public remarks, as "would-be specialists" and not have backbone enough to call names. Nor is there any abnormal difference in the weight of the two hemispheres, except some may part their hair on the side, but not often. The convolutions are almost obliterated; due to induration, or gliosis. This affects the gray matter in patches throughout the cortex. There is a diffused increase in the neuroglia tissue in the brain, becoming more marked as the case grows older. Some writers have noticed a fatty degeneration of the nuclei of the "angular cells." In severe cases the nuclear degeneration cause "vacuoles" to be formed. This condition is known among the Latin races as "caput vacui;" we call the condition vacuolation, but in common parlance, it is known as "block head."

Another fundamental defect in the brain is that it is circumscribed in its associative functions; the field of consciousness is limited as is the field of vision. The mental activity is confined to personal feelings, which are not regulated by connotations of past experiences; hence they flow over too easily into the emotional "outburst," when we have vociferous cries and wild gesticulations.

Pleonexiaes cannot think. The condition is explained by supposing that there is a numbing of the associative fibers which normally connect sensory cortical centers with each other, thereby enabling one to compare and adjust new experience with old; in other words, to reason and to form correct judgments. This condition is often noticed in the fact that they will often severely criticize

their neighbors for the same things, which they do themselves.

Physiology. The seat of the discharge is in the cortex of the brain. The discharging cells are the large motor cells, the function of which is to store up and discharge nerve force. They are under the control of the sensory, or "angular cells" of the second layer which have an inhibitory power. These being diseased, their control is weakened and the motor cells "explode" periodically when the mind is not employed in attention to its own personal affairs.

Diagnosis. Has to be made upon the character and frequency of attacks and its peculiar stigmatae. The pupils are dilated; the nostrils are flared; respiration is accelerated; temperature slightly elevated; the tongue begins to "wag"; muscular movements violent and irregular, particularly noticeable at first in the muscles which control the head, arms and hands. Evidence of violent emotion then takes place; the face is alternately flushed and pale, then the pathognomonic symptom is manifested in the most violent "kicks"; in fact, in the severer forms, one becomes a great "kicker."

The mental state now is almost hysterical and is characterized by emotional instability; an intense desire to villify one's co-workers takes possession of the mind, weakness of the will, lack of self-control, obtuseness of perception, and then takes place a constant variability of mood.

The pleonexial mind is not necessarily a dull one, but it is a mendacious and evil one. We have with these abnormal conditions an increased sensibility and exaggeration of the personal feelings, or egotism, which always leads to selfishness and prompts deceit.

Trophic Disorders. In all cases there is atrophy of the sense of propriety, weakness of moral character, which affirms the degenerative process going on in the brain, but not any more than would be expected from the disuse of the higher cerebral cells, the neglected development of which makes a very feeble mind and a very unpleasant and unsuccessful man.

Visceral Symptoms. These patients all suffer from dyspepsia, and anorexia is often marked, because they earn food poorly, and then they may develop that phase known as "the fasting girl," but you will have to watch these patients because they sometimes deceive the very elect, and while they are venting their spleen on some honest, hard-working fellow, you will often find them around the corner taking a drink, eating and smoking at the expense of their next victim. The kidneys work nicely, though there is always a low specific gravity, 1003 to 1008.

This is due to the fact of little muscular waste, because these patients have an intense aversion to physical exertion.

While these patients are considered to be of a bilious temperament, they manifest the ability to excrete an unusual amount of "gall."

Prognosis. There was a time when it was considered always to be bad and few cases ever recovered, when once the disease was well established, and this is now the case in some of the outlying or country districts, isolated from reform and progress, but in the more favored and enlightened districts, and especially in cities of the first class where we can have better hygienic surroundings and better facilities for higher education, we can begin to see the dawn of a new day and the shadows of former and disagreeable spectres are passing away like the mists before the effulgent rays of the morning sun.

Not long since the disease was considered hopeless and some have said that nothing could be done for the unfortunate victims, and they were left to time, "which cures all things," and then the dark night of eternity would kindly spread its impenetrable shades over the form then lost in oblivion.

Mortality is now almost nil. There is an occasional death among the laity and the more ill-favored, due to apoplexy and heart paralysis superinduced by excitement and high arterial tension during the attack. But in the light of more recent experimentation and biological research and the establishment of the opsonic theory and vaccine therapy, and especially better educational advantages, no case need be considered hopeless.

We believe that refinement and proper education aided by the skilled advice of the internists, surgeons and specialists will save all cases in the near future.

Treatment. The only remedy I want to mention is what S. Weir Mitchell established for hysteria—"The Rest Cure." It may not cure the patient, but it can't do any harm, and the public needs "the Rest."

I am more and more impressed with the beneficial work of this and other great medical societies in obtaining such splendid results toward the extermination of this formidable foe of the human race, through the prophylaxis of education.

May the good work go on and I am sure future generations now unborn, will some day rise up and call you blessed.

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DISCUSSION.

Curran Pope: I am happy in being selected to lead the discussion of this paper—as happy as Paul was when he stretched forth his hand before Agrippa—and while I do not hope to give you as prolonged, nor as learned, nor as beautiful a speech as Dr. Peak's, still, I think the subject is sufficient to justify an oration.

As we grow in life, and as we grasp from time to time in childhood and in adult life, certain facts—sensations, we may term them—we lay up knowledge, and it is this knowledge, obtained through our sensations, that governs us in our psycho-physical relations with the world. When we realize that this is the basis of all acts and all deeds in life, we will at once realize the vast importance of a careful garnering of facts as a preventive of Pleonexia; and the consequence is that after all, as the essayist has said, education lies at the bottom, not only as a preventive, but as a prophylactic and cure; so that if we want to get at the real basis of the cure for this trouble, we must start with the child and so train the mind, and so guard the sensations, that when the child grows to adult life it will have laid up such a store of knowledge of such correct bearing that pleonexia will be a thing of the past.

The essayist failed to mention, however, that the trouble is not limited to physicians, nor to laymen, but Kings, aye, even Emperors, have suffered from the same disease; it has been all-pervading; it has existed since the time of Adam; it has spread and has been found in probably every human being that ever drew the breath of life. And it is not limited to the human species; we see it in our observations of animals, and sometimes in those who are below the animals.

Selfishness, the love of self, the desire for aggrandizement, means largely a desire to rob others of what legitimately and rightly belongs to them; it is the foundation for recognition of failure on the part of self, and with this recognition comes naturally and surely a desire to harm, or to hurt, or to hate those whom we selfishly know are better than ourselves. I say again that it is not limited to laymen and (I say this with all humility) that it sometimes even penetrates the professional sphere—at least, I have been told so. The individual who swells out his chest and says, "I am Sir Oracle, let no dog bark," forgets, when he plucks the mote from his neighbor's eye, the large and mighty beam that obscures the vision of one of his own optics. Where pleonexia stops, there true happiness begins, for no man can call himself happy, who is not willing to make others happy. "No man," said Solon, "is happy till he dies"; but Solon was wrong there. That man is happiest who is most self-abnegating; the man who is most willing to do for others.

"Who," said Croesus to Solon, "was the happiest man you have ever met?" "It was an Athenian," replied Solon. "And what did he do?" said Croesus. Said Solon, "When the coach in which his mother was traveling, broke down, he repaired it, and when the oxen refused to go any farther, he took their place in the shafts and hauled his mother home, and thus by his self-abnegation became a happy man."

The medical profession does not talk of its good deeds; the doctor, as a rule, does not let his left hand know what his right hand doeth; it is a habit with him. We are men that should be free from Pleonexia; we are men whose very work should make us tolerant of the shortcomings of others, kind to others; broad enough, good enough, strong enough, true enough to stand back of our brother doctors no matter what may come. These are things that will wipe from the medical profession the disease of Pleonexia just as easily and as completely as the red-hot sword wiped the wax from the tables of Rome. We want to start in this day and generation as Rome started after Sulla and Manus, with a fresh table upon which we are going to write the eternal principle—"Evil to him who evil thinketh, and good to him who does good." (Applause.)

C. H. Harris: When I first knew this lofty and majestic Peak he was practicing medicine; next he launched into surgery, and now he assumes to take Dr. Pope's position and become an expert on mental diseases.

When the doctor began to read his paper, I thought at first that he had gained his experience by being a member of this society—I did not know but what he had been trying to make somebody "cough up." For my part, I believe I have become a pleonexite, because I am becoming mighty greedy about my reputation. I have been on so many begging committees and soliciting committees for this society that every time I approach a doctor's office he begins to show symptoms of pleonexia, and tells the office girl to say to the doctor that he is not in.

I do not know anything about the pathology or physiology of this wonderful disease, but I can tell you a remedy—that is, the Golden Rule. If we would rid ourselves of this form of insanity, we must "do unto others as we would have them do unto us," and if we would follow that rule we must look to the Cross of Jesus Christ, who said in His dying hour, "Father, forgive them; they know not what they do."

R. A. Bate: As a child, I was associated with a country physician who was the personification of nobility. In every department of life he was perhaps the highest type, a model who was looked up to in every section, so that this particular species planted alone seems to reach perfection. If anything is to be said in regard

to the etiology of pleonexia in the profession, I would say that a multiplicity of doctors seems to lead to this disease. The suggestion of the essayist that education would eliminate it, is, I believe, not altogether correct. Sometimes the most highly educated of us show it the strongest. Perhaps heredity is a nearer tack. I recall an incident which happened not very long ago in one of our Rathskellers which brought out what is, perhaps, the real cause of pleonexia. A certain young man had been visiting in a certain locality in which Mr. A., and his family lived and was telling some friends about his trip. He would remark that the surroundings of the little town were perfectly beautiful, "but Oh, those A's!" He would then remark something about the delightful visit he had had—"but Oh, those A's!" At this point a gentleman sitting near enough to hear the conversation, arose, went over to the young man and said: "Sir, I am one of those A's from the locality you speak of; I knew your father and mother, and your grandfather and grandmother, and they were very nice people; they would not have said, 'Oh, those A's,' as you have said—they would have said, 'Oh, them A's!'"

So, I think pleonexia traces back something like that. It takes education for several generations before they come to be generous and truly noble. I do not believe, however, that all is bad; I like to be optimistic. Most of us have a little pleonexia, but we also have some good qualities which we should try to cultivate.

J. Hunter Peak (closing): I have absolutely no personal motive in presenting this paper; I simply thought we might have a little fun. We are always having something solid and useful, and I believe this paper has been useful in affording a little variety. In our mad rush for scientific research we should stop occasionally and take our bearings. My only object in reading this paper tonight was to bring out a friendly exchange of ideas such as we have had. I believe it will do us all good.

Venous Pulse in Paroxysmal Tachycardia.—

From the point of view of the venous pulse all cases of paroxysmal tachycardia apparently fall into a group which includes those cases in which the venous pulse assumes the "ventricular" or "positive" type, and there is no evidence of any contraction of the auricles. It is important to distinguish between cases of idiopathic paroxysmal tachycardia, with sudden onset and cessation, and cases of simple rapid heart action beginning and ending more or less gradually.—*Archives of Internal Medicine.*

CLINICAL DEPARTMENT.

FRACTURE OF SKULL. REPORT OF CASE.

BY W. O. ROBERTS, LOUISVILLE.

Last Tuesday night, about eleven o'clock, I was called to the University Hospital, in consultation with Dr. Davidson and Dr. Barbour, to see a child, about eighteen months old, who had been struck by a street-car. When I saw the case, the child had a temperature of 102 degrees in the rectum, and a pulse of about 140. It was totally unconscious and had spasm of the left arm and leg. Examination of the head showed considerable extravasation of blood under the scalp on the right side. I was not at all certain as to the existence of a fracture. There was one point about the parietal prominence, right over the ear, that felt suspicious to me and I advised an exploratory operation. At about twelve o'clock the child was anesthetized and I made a free incision in the scalp and found a fracture, but little or no depression. Thinking there might be some hemorrhage inside the skull, I took out this button, with the trephine. The dura was very blue with absence of pulsation. I made an incision in it and a considerable amount of blood escaped. When the child came from under the influence of the anesthetic the muscular spasms had all disappeared and they had not recurred. The patient has made an uninterrupted convalescence and will leave the hospital in the morning.

RENAL CALCULUS. REPORT OF CASE.

BY W. O. ROBERTS, LOUISVILLE.

This is a renal calculus, passed by a man 58 years of age. This patient had no symptoms of any trouble until a week before I saw him, when he tells me he suffered intense colicky pains in the left side of the abdomen, necessitating the use of anodynes. He recovered from this attack, and two or three days later began to notice bladder symptoms, having to urinate very frequently. At the time I saw him, he was urinating every hour or two. Examination of the urine showed pus and a considerable amount of urates. I told him I thought he had passed a renal calculus, which had lodged in the bladder, and was giving rise to the symptoms of which he complained. Two days later he came to my office with this calculus, which he had passed. It is rather large (being much larger than a navy bean) to have passed through the urethra without some difficulty, but he tells me it came through without pain.

RESECTION OF INTESTINE IN A CASE OF INTUSSUSCEPTION.

By W. O. ROBERTS, LOUISVILLE.

On September 7th, at 8 o'clock in the evening, I was called to see a woman 25 years of age, teacher by occupation, in consultation with Dr. Lammers, who gave me the following history:

The patient had complained for the previous few months of constipation and indigestion. At about 3 o'clock of the evening that I saw her, she was seized with a severe colicky pain in the lower part of the abdomen, for which she took a dose of castor oil, followed in a little while by an enema. Experiencing no relief, Dr. Lammers was called. He found the patient still suffering with severe colicky pains, temperature normal, pulse 80, no nausea, constant desire to go to stool, but unable to pass anything from the bowel. In examining the abdomen, he found some rigidity of the abdominal muscles, and just below the umbilicus, he could make out the outlines of an oblong tumor, the size of the wrist. When I reached the house at 8 p. m., the patient was on the commode emptying an enema which had just been given her. She had passed no fecal matter since the first enema, and the doctor had administered a second dose of oil, which had been retained. The abdominal muscles were still rigid, and the tenderness was rather more marked than when the doctor first saw her. We ordered for her a hot milk and molasses enema, one pint of each, and if this failed to give relief, she was to be taken to the infirmary for operation. I was not called again until the following morning at 8 o'clock, when I was told that practically no change had taken place in the symptoms. She was sent to St. Anthony's Hospital, where upon my visit, I found the abdomen somewhat distended, temperature and pulse each 100. She had vomited twice during the morning, and had passed nothing from the bowel. We were unable to get into the operating room, as it was in use until 11 o'clock. Upon opening the abdomen in median line, we found the trouble to be an ileal intussusception. The gut was gangrenous, and I had to remove five feet of it, by actual measurement, and then made an end-to-end anastomosis. The patient came off the table in an extremely feeble condition. She was given sub-cutaneous injections of saline, adrenalin and whiskey during the afternoon and night. At my visit the following morning, I found her condition good. On the second day, she had a movement of the bowels, passing some fecal matter, and a quantity of very dark fluid. On the third day her bowels moved well. Everything

looked favorable up to the morning of the fifth day, when she was seized with a severe pain in her abdomen, which was soon followed by nausea and vomiting; the abdomen became very much distended, her pulse went all to pieces, and she died the morning of the sixth day, evidently the result of a leakage, which occurred as late as the fifth day after the operation.

DISCUSSION.

Wm. H. Wathen: Dr. Roberts has reported a very interesting case, and it emphasizes a point to which I have given much attention for many years. Until recently it was believed that end-to-end anastomosis was the proper operation in nearly all intestinal resections. Experience has shown that, in acute cases, this is not true, and is often not true in chronic cases, because it is not always reliable and may finally give way, just as it did in Dr. Roberts' case. The fact that this woman lived five days after the operation shows that there was no intense toxic infection; therefore, if the intestine had not given way she would have recovered. Now, in these cases, if the intestine is crushed beyond the diseased area with strong forceps, a No. 2 catgut ligature thrown quickly around it at each end in the crushed part, and then the two ends inverted by the use of a thread or silk ligature, and lateral anastomosis made, the operation is quicker, circulation is better, and you are far less likely to have leakage following it. In acute cases (and I think we would all do well to consider this point) we should not attempt to do ideal work, but should do lateral anastomosis. It has been proven by experiments that we get passage of gas and feces almost as quickly through the lateral as through the end-to-end anastomosis.

August Schachner: I rise simply to clear up one point which seems to be confusing, and which I will illustrate on the blackboard. Let this line represent the lumen of the intestine; then the arrangement of the peritoneal folds is like this. Dr. Wathen is correct in his statement that lateral anastomosis is the best, because when you do lateral anastomosis you are able to carry out the Lernberg principle all the way through while, when you do end-to-end anastomosis, you have a little triangle at the mesenteric border that is free from peritoneal covering. The leakage that occurs and the danger from end-to-end anastomosis is altogether at the mesenteric attachment, not so much because of stripping the mesentery back and cutting off the blood supply; it is a question of suturing where you do not have any peritoneal surface and you cannot carry out the fundamental principle of intestinal surgery; namely, bringing the peritoneal surface together and getting plastic approximation. Of course, this can be remedied by bringing this over very carefully

and making a covering there of peritoneal surface.

That is the point that is overlooked, and is the main principle in surgery of the small intestine. This little triangle is where the leakage always occurs because it is not covered over with peritoneum.

W. O. Roberts (closing): I know as Dr. Wathen has stated, that statistics show a much greater mortality in end-to-end anastomosis than in the lateral; but I have always done the former, and to my mind, it's a very much easier operation than the lateral. I am satisfied that the leakage in this case was not the result of the removal of too much mesentery; but most likely to too early absorption of the sutures. I suspected that plain catgut was used instead of the twenty-day as I intended.

UTERINE ELEVATING FORCEP.

By W. D. BERRY, LOUISVILLE.

Before presenting this instrument, which I have devised to be used as a uterine elevating forceps, will call your attention to the many different types of instruments that have been most commonly used for this purpose, most of which will either pierce, cut, crush or tear the tissue when applied to the fundus of the uterus. The single and multiple prong volsellum forceps, narrow solid blade forceps, broad solid blade forceps, both straight and curved blade forceps, but com-

prong volsellum forcep will cut out if there is much traction used, especially if the uterus, due to any cause is greatly congested, and the hemorrhage following is very annoying. If they have two or more prongs they will not tear so easily, but will tear the tissue sufficiently to cause hemorrhage when the instrument is removed.

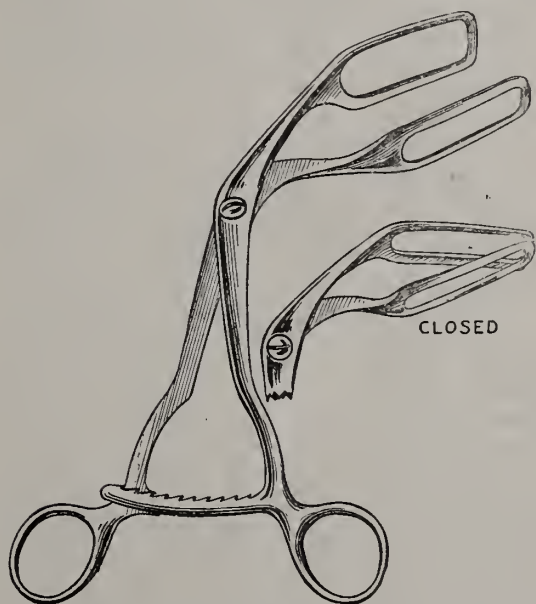
A narrow, solid blade forcep produces too much trauma, if applied sufficiently tight to be of service, and a broad solid blade forcep is objectionable because there is a tendency for the uterus to squeeze out at the side of the blades, if applied tight, besides they interfere with surgery on the surface of the uterus.

Any straight forcep is objectionable, because any instrument applied to the fundus of the uterus, the handles of which necessarily must remain in the abdominal wound, and will naturally be in the way of the operator, as the fundus of the uterus is considerably below the lowest angle of the abdominal incision which is made in doing surgery on the pelvic organs through the abdominal route.

The object of my instrument, which is simply a curved forcep with fenestrated blades, made on an angle that will fit the uterus when applied over its fundus; is a forcep for seizing and elevating the uterus which will hold when applied, without slipping, cutting or tearing the tissue; handles which are curved at an angle that will cause them to be out of the way of the operator when the instrument is in use; fenestrated blades, the anterior blade narrower than the posterior, to facilitate surgery on the anterior surface of the uterus, by exposing the greatest possible amount of its grip that will keep it from slipping, without using pressure enough to produce trauma, on account of the anterior blade forcing a portion of the fundus of the uterus through the fenestration in the posterior blade.

I have received a letter from Dr. A. J. Ochsner, of Chicago, in regard to this instrument, in which he says:

"I wish to thank you for sending the forceps for holding the uterus, which I have used in thirty-two cases which have occurred in my work since I received it. It is very satisfactory because it holds the uterus and does not traumatize it, and the handle is out of the way so that it does not interfere with the work."



UTERINE ELEVATING FORCEPS DEvised BY W. D. BERRY

paratively all of the different types which have been used for this purpose have straight handles.

My experience has been that the single

CHRONIC DOUBLE SYNOVITIS.

(Presentation of Patient.)

BY OSCAR L. BLOCH, LOUISVILLE.

Patient O. M., aged 18, weight 120, nationality, American; shipping clerk by occupation. Parents living in good health. Patient is oldest of six children; has two sisters and three brothers, all in good health. No tuberculosis in family history. Had had all the diseases of childhood except scarlatina and diphtheria.

Two years ago patient noticed some swelling of left knee, with pain and some limitation of backward motion. He came to see me in the fall of 1907, presenting a synovitis of the left knee. The knee was aspirated three times and a transparent fluid evacuated with apparent recovery. However, a nodule formed high up, about the middle of the left thigh. In June, 1909, he came to my office complaining that the right knee was swollen and painful. At that time he had a temperature of 100 F. He has gained ten pounds since the Fourth of July, at which time he took his vacation, going to the country and spending two weeks. He has no temperature, now, at any time during the twenty-four hours. His right knee is still swollen, especially over the inner tuberosity. Some fluid is present. He has no pain and not as much interference with flexure as was the case in the left knee. On the left knee extensive induration can be felt, and there is some swelling of that knee, particularly at the outer tibial tuberosity with fluid apparently present. There is still a great deal of limitation of motion in the left knee.

X-ray examination revealed nothing whatever. I am going to try the treatment with rubber bandages. He has been ordered to get them and will doubtless have them in a day or two. He has to work during the day, so I am advising the use of this Bier treatment at night, and I trust I may be able to do something for him in that way.

REPORT CONTINUED—DECEMBER 17, 1909.

November 10th, 1909, an acute infection having taken place in swollen area over inner tibial crest, an incision was made and pus was evacuated. Drainage was established and after three days the acute symptoms were terminated; the pus discharge ceased, but a clear serum containing numbers of white, stringy flocculi has been discharging freely since.

December 2, 1909, a tuberculin test (Von Pirquet) was made on right forearm. Result negative.

December 14. Being unable to evacuate contents of fluctuating swelling over the out-

er crest of the left tibia by means of aspirator. I made an incision and let out the contents which consisted of clear serum containing many flocculent white masses. To the inside of the wall were attached long white shreds. Upon neither side was there any connection with the joint.

The patient has been on an anti-specific treatment more or less continuously for six months. He is well and plump, suffering only from the inconvenience of his knees, having practically no pain. Diagnosis—Bursitis tubercular (?)

PRIMARY CANCER OF THE FEMALE
BLADDER; REPORT OF A CASE.

BY EDWARD SPEIDEL, LOUISVILLE.

The following case presents some exceedingly unusual features that should make a report of interest.

Mrs.—, 40 years of age, married twenty years, became pregnant for the first time in 1908. Labor pains began on August 13th, and continued with little effect upon the cervix, until the morning of the 16th of August. The fetal heart sounds could not be heard, it was supposed partly on account of the thickness of the abdominal wall, neither could active movements be observed. The patient claimed, however, that she felt life.

With the cervix fully dilated and no progress in the labor, the forceps were applied and the head delivered. It was then noticed that the fetus was dead and extraction of the body by forcible pulling showed unmistakable signs of its having been dead several days.

In consequence of the rigidity of the perineum, due to the age of the primipara, a tear through the sphincter occurred in the extraction of the child, which was repaired by immediate operation. Manual removal of the placenta also became necessary.

These manipulations were all conducted in a private house on the hottest Sunday in the month of August, with an unskilled nurse and the husband as assistants, the anesthesia however, being in the hands of a skilled assistant.

The puerperium was uneventful, except that there was a slight elevation of temperature and from the very beginning the patient could not void her urine. This was ascribed to the laceration of the perineum, a trained nurse was secured and the patient catheterized as often as necessary for a period of two weeks. Great difficulty was also experienced in feeding this patient, as she suffered with nausea and at times could not retain predigested food. By the 12th of September, however, she seemed to have fully re-

covered and was dismissed. On the 26th of September I was again called and found the patient suffering with chills and a high fever and complaining very much with pain on micturition, which she claimed was due to the prolonged use of the catheter after labor.

An examination of the urine showed the presence of an abundance of pus and irrigation of the bladder with boric acid solution was practiced. In the beginning, the bladder held a very small amount of fluid, but under the use of the irrigation, gradually became distended until it seemed to hold fully 1-2 pint. A vaginal examination at that time showed nothing unusual with the organs of generation. About two weeks later, the patient complained of a great deal of pain and pressure in the lower part of the abdomen and upon vaginal examination, a large boggy mass, about the size of a coconut could be felt in front and to the left side of the uterus. The patient had chills and an elevation of temperature with this, all of which led me to a diagnosis of post puerperal abscess, although it was now two months since the delivery of the dead fetus.

On the 5th of November, the husband finally consented to an operation. The patient was removed to the Jewish Hospital and prepared for a vaginal and abdominal operation.

A transverse incision was made on the anterior lip of the cervix, the vaginal mucous membrane dissected away and the fingers inserted high up in the direction of the tumor. Nothing could be reached in this way, the incision was packed with gauze and the abdomen opened in the median line. Upon inserting the hand, the uterus, fallopian tubes and ovaries were found absolutely normal in every respect, but in front of them from the top of the symphysis downward extended the bladder, firm and hard and as thick as sole leather, as could be felt on introducing a sound into the urethra. The top of the bladder was nodular. Needless to say, the incision was closed and the patient put to bed.

Incontinence of urine followed for about a week, thereafter through the use of bladder irrigations, the condition improved and the patient was able to control its passage. The urine always contained pus, but if the bladder was irrigated, then the sample obtained the next morning was free from pus, showing that the kidneys were not involved. The patient was operated upon on the 5th of November and lingered until the 17th of January in spite of the fact that there was daily nausea and vomiting and the greatest difficulty in finding any food that she could

retain. For weeks she subsisted on a little champagne and panopepton.

An autopsy was allowed upon her death and as before the uterus, Fallopian tubes and ovaries were found perfectly normal. Both kidneys were normal in size and showed no abnormality, upon section, nothing unusual could be found about the intestines, stomach or liver.

The bladder had shrunk until it was much smaller than at the time of the operation and a portion of it was submitted to Dr. Faubach for examination, whose report is as follows:

"The specimen is more or less necrotic and shows some induration. It shows unmistakable evidence of malignancy (carcinoma) but seems to be more of an extension from some nearby organ than the primary seat of the trouble."

In connection with the case, it may be interesting to state, that a sister of the deceased was very anxious to learn the outcome of the autopsy, because when an abdominal operation was performed upon her two years ago, the operator told her that he found her bladder thickened and hard like sole leather.

The writer reports this case as a primary cancer of the bladder, because, microscopically, at least, none of the neighboring organs showed any signs of the disease.

APPENDICITIS—GALL-STONES; REPORTS OF CASES.

By J. T. DUNN, LOUISVILLE

The specimen I have to present is an appendix, removed last Wednesday a week ago, from a girl whom I saw in consultation with Dr. Frank Wilson. The patient is seventeen years of age, and gave the following history: On June 28th she was seized with pain in the abdomen, not localized in any particular portion, together with vomiting and constipation. She had been given a full dose of calomel, followed by a saline. The pain continued to be general over the entire abdomen until the following day, when it became localized in the right iliac fossa, with special tenderness over McBurney's point, at which place it was most excruciating. Her temperature when I saw her was 101 degrees; pulse 110; bowels had not moved freely. I advised that the appendix be removed immediately, which advice was accepted and the patient was at once moved to St. Joseph's Infirmary and the abdomen opened.

The peculiar part about this case is that, upon opening the abdomen, a condition of general peritonitis, or rather an intense

congestion of the arterial system of the peritoneum, was discovered. Upon making a search for the appendix, I found that there were no adhesions, and it was easily removed. There were many bands of adhesions connecting the ascending colon to the parietal peritoneum. These I did not disturb. The appendix was not normal in color, but was not inflamed to such an extent as might be expected at the end of forty-eight hours of acute appendicitis. I cannot account for the peritonitis and bands of adhesions as there had been no perforation nor infection from the appendix. There were no adhesions about the appendix and it was not distended. I simply amputated, cauterized the stump and established drainage in the ordinary manner. The patient made an uninterrupted recovery.

I have had Dr. Hays examine this specimen and he reports pus in the appendix. He has not yet reported the result of a bacteriological examination, but he said the histological appearance would not lead him to believe that it was a tuberculous condition. (Later, no tubercle bacilli found.)

I have here another appendix that was removed from a patient referred by Dr. W. B. Pusey and sent from Bowling Green, after having had three attacks of appendicitis, one in June, 1908; one in September, and one in December. The first of these attacks was of three days duration; the second lasted two weeks; the third attack lasted some four or five weeks, the patient making a long and tedious convalescence. After getting this history, I felt that there was little doubt that the patient had a concretion in her appendix, and upon opening the abdomen, found that she had two concretions. These you will see in the bottom of the bottle. They are about as large as BB shot and lay in the tip of the appendix, which was split longitudinally and the stones delivered through the opening. The patient made a very satisfactory recovery, being able to sit up on the tenth day after operation, and went back to her home on the 15th day.

I have here some gall-stones which were removed from a woman 45 years of age, weighing 200 pounds. This patient gave a history of gall-stone colic, the first attack occurring about five years ago, since which time she has had at least twenty-five attacks. Upon opening the abdomen and introducing my finger I could feel the stones. I opened the fundus of the gall-bladder and, with a curette, removed, as I thought, all of the stones. However, after removing my rubber glove and searching the gall-bladder with my finger, I found three or four more in the gall-bladder and one in the cystic duct. The lat-

ter had become so imbedded and it was only removed with great difficulty. I was just about to give up the effort to remove it with a curette and make an incision in the cystic duct when it crushed under the point of the curette and was removed in pieces. The patient made an uninterrupted recovery.

H. M. McConathy: In regard to the last operation, I would like to ask Dr. Dunn whether he removed the gall-bladder entirely?

J. T. Dunn: I did not remove the gall-bladder; I simply sutured it to the parietal peritoneum.

FOREIGN BODY IN SUBMAXILLARY DUCT.

BY ADOLPH O. PFINGST, LOUISVILLE.

I have here a broom-straw about 1 1/4 inches long, which has been the source of much trouble to a young man. Some time ago I saw a patient with decided enlargement under the angle of the right jaw which was giving the patient pain. Pressure along the submaxillary duct on that side brought pus from the outlet of the duct. The duct was slit and probed, but no foreign body found.

Four weeks later this straw discharged spontaneously, and then the boy remembered that in picking his teeth with a straw about 4 weeks previously, he lost the straw in his mouth, never knowing what had become of it.

The straw had evidently passed into the opening of the duct under the tongue and had infected the gland. The subsequent history shows that the gland became infected and was finally removed by Dr. Abell.

DISCUSSION.

Irvin Abell: This straw came out quite a while before I enucleated the gland. When that came out I thought probably the gland would subside. However, it was evidently increasing and the secretion of saliva always caused pain. The patient said he had suffered all he wanted to and, as it was a question whether the infection would eventually subside, he insisted upon removal of the gland. I simply enucleated the entire submaxillary gland which was very greatly enlarged.

J. T. Dunn: I do not like to discuss one case by reporting another one, but I saw one some time ago that was of very great interest to me.

About three years ago a man came to my office and stated that he had lost a pin somewhere in his mouth. He had the pin in his mouth under the tongue and when he attempted to push it out with the tip of his tongue, it disappeared. He was sure it had not come out of his mouth and was also sure that he had not swallowed it. I made a very careful search of

his mouth and throat, but could not find the pin, and I dismissed him, telling him to come and see me the next day if he experienced any pain or discomfort. The next day, while examining his mouth with the aid of a mirror, he found a small hole under his tongue and thought possibly the pin had disappeared into that hole. To test this, he tied a string to another pin and pushed it into this hole. He came to me and I introduced a probe into the submaxillary duct and could feel it grating on the pin. I then obtained a long probe with an eye in it, clipped the eye off and made a two-pronged hook of it, which I introduced into the duct, astride the pin and pulled it out point foremost. The patient had no further trouble.

B. F. Zimmerman: I saw this patient before he went to Dr. Dunn. He came into my office, very much agitated over the loss of the pin, and I searched his mouth thoroughly, but was unable to find it. Although he felt nothing unusual, he was positive it had disappeared somewhere in his mouth. Dr. Fort came into the office about that time and he also made a search and was unable to find it. We dismissed him and he told us afterwards that Dr. Dunn had removed the pin.

ABSCESS OF THE THYMUS GLAND. REPORT OF CASE.

BY R. ALEXANDER BATE, LOUISVILLE.

I would like to report a case and ask the surgeons present to assist me in making a prognosis.

The patient is a man, about 45 years of age, a freight car conductor, who gives a history that in November or December last, he suffered considerable pain in the muscles of the right shoulder and neck, and also some pain in the chest. At the time I saw him this had gone somewhat to the right side and his neck was enlarged. The first physician he saw thought he was suffering with rheumatism and he was accordingly sent to Martinsville. The doctor there examined him, said it was not rheumatism and sent him home immediately. In the meantime, he was seen by several doctors in consultation; some believed it to be tuberculosis and various other diagnoses were made. The patient came under my observation in January, and Dr. Butler saw him with me. At that time, it was easy to make out an abscess, discharging into the throat. The swelling had all subsided and the pain was relieved. Upon examination by percussion, I thought I could make out some enlargement of the thymus gland. Microscopical examination revealed the presence of fungi in the sputum. After the patient had been on creosote for a couple of weeks, the fungi disappeared from the

sputum. The sputum also contained pus-cells, but no tubercle bacilli were present. There was very little change in the lungs. The patient reported some change in his voice, and Dr. Ray made a diagnosis of paralysis of the recurrent laryngeal. The patient continued to spit up this purulent material and Dr. Ray suggested that we wait awhile and not operate, as the patient seemed to get the pus out fairly well. He continued to improve for a month or so and then the other side began to swell, and the area of dullness over the region of the thymus on the left side considerably enlarged. His head then turned to the left side and his neck swelled again. This state of affairs existed for about one week. The character of the discharge had changed from a purulent to a very dark material, seemingly mixed with blood. Finally that cleared up and the area of dullness over the thymus gland again began to diminish. The patient has wasted very considerably. There is no ptosis and no paralysis of the muscles. Apparently it is simply an abscess of the thymus gland. When the patient gets strong enough, we expect to have an X-ray examination made. Meanwhile, I would like for the surgeons to tell me what the prognosis would be in the event of surgical intervention, getting this pus out directly. I have been able to find very little in the literature along this line.

DISCUSSION.

John R. Wathen: If I am not mistaken the thymus gland is a fetal remnant, which practically disappears by the time a man has reached the age of 45 and I cannot understand why, in Dr. Bate's case, the gland should have remained and undergone suppuration.

In this connection, I would like to mention a case somewhat along the same line. About a week ago, at St. Anthony's Hospital, I operated for the relief of a very large goitre, about the size of a cocoanut. The outside skin was dense and the mass was fluctuating, the patient having a high temperature. The skin was red and looked like a large abscess formation. I made an incision and evacuated about a quart of pus from a large cystic goitre that had undergone suppuration. Accordingly to the literature, this is an exceedingly rare condition.

J. G. Sherrill: There are just two diseases which might cause the condition described by Dr. Bate; one is syphilis and the other tuberculosis. It is feasible, in cases of this kind, to remove the bone, turn back a flap of the sternum and attack the tissues behind the sternum. It is a serious operation, however, and has not been extensively practiced. I have personally done the operation. I remember one case which terminated fatally, the patient dying of very peculiar symptoms. This was a colored man

who had suppuration for which he had been treated by an opening above the sternum without resection. When he came under my care he had a discharging sinus communicating with the original focus. He was treated for a time without results and then operation was performed. In doing the operation I inadvertently wounded the edge of the left pleura. The opening was immediately clamped and closed and the patient left the table in good condition. On the second day, however, he developed a high temperature, without other symptoms, and eventually died. No post-mortem was held, and I am unable to tell you the exact cause of his death.

In the case under discussion, I am inclined to believe that the doctor is dealing with a syphilitic deposit which has broken down, or with the glands in the bronchial region which have undergone suppuration.

REPORT OF CASE FOR DIAGNOSIS.

By HERBERT MCCONATHY, LOUISVILLE.

During the winter I had a very peculiar case in a girl 18 or 19 years of age. She came to me with a history that when she woke up in the morning, the left side of her neck from the lower end of the jaw to the shoulder was considerably swollen. When she was at my office no swelling was apparent, but she told me that as soon as she arose the swelling began to subside, and in two or three hours became normal. I went to her home to see her one morning before she arose and found the left side of her neck considerably larger than the right. I felt it very carefully and could make out no especial tenderness. The tissues were swollen, but there was no redness, no pain and practically no discomfort. I gave her no treatment, except a purgative, and in the course of a couple of weeks, the condition cleared up.

The only thing I could learn that might furnish a possible cause of the trouble was that, before it began, she had been to the dentist and had a very small amount of cocaine put into a tooth on the left side, and I would like to know whether the cocaine could have caused enough vaso-motor paralysis to bring about the swelling.

PERI-URETHRAL ABSCESS; REPORT OF CASE.

By B. F. ZIMMERMAN, LOUISVILLE.

This patient gives a history of gonorrhea, and she was operated on, about a year ago, by Dr. Sherrill, who removed inguinal glands. Later, I operated on her for the removal of a pus tube. That was last October

or November. About two months ago she came to see me with a mass, about the size of an English walnut, in the anterior vaginal wall, which was somewhat tender. She had discovered this accidentally upon introducing a syringe into the vagina. Upon examination the finger in the vagina, making pressure upon this mass, pus could be expressed through the urethra. I incised it and evacuated considerable pus. It was packed and in the course of ten days or two weeks, it closed up and the patient has had no further trouble since. It is the first case of the kind I have ever seen, and I would like to know whether any of the other members have seen any such cases.

DISCUSSION.

J. G. Sherrill: I have seen only one case of this kind. This was in a patient whom Dr. Helm asked me to see to assist him in making a diagnosis. The mass was at the side of the vagina at the head of the urethra, and was about the size of a hazel nut, well rounded, not tender and showed no evidence of inflammation. I made diagnosis of cyst and, to all intents and purposes it was a cyst, except that it contained pus. In this case the girl had no evidence of infection of the vagina and it must have been a case of suppuration taking place in a retention cyst.

MEDICAL PROGRESS.

DEPARTMENT OF PROCTOLOGY.

By G. S. HANES.

SOME REMARKS ON MUCOUS COLITIS, By GEORGE M. NILES, M. D., ATLANTA, GA.

In looking up the literature on this subject, one is amazed at the divergent views as to the etiology and management held by diligent students and competent observers.

It is fairly well agreed that most cases occur in nervous, neurasthenic, hypochondriac, or hysteric individuals.

According to Litten, 90 per cent. are women. Einhorn and Kitiwaga place it at 80 per cent.; Memmeyer, 75 per cent., and Von Noorden at about 65 per cent.

Most cases occur between the ages of twenty and forty.

Mathieu considers it a hyper-secretion of mucus in patients of neuro-arthritis type, who suffer more or less from enteroptosis.

Glenard ascribes it mostly to a hepatosis leading to vascular tension in the liver, which, by diminishing the secretion from the mucous membrane in the intestine, favors the precipitation of mucin by the acids abounding there.

Geoffroy thinks that the secretion of mucus is brought about by spasms of the mus-

culature of the large intestine, while Butler writes it simply as a manifestation of hysteria or neurasthenia affecting the follicles of the colon, and calls it a secretory intestinal neurosis.

Von Noorden considers it a neurosis due to innervation of the intestine, especially the colon, and nearly always associated with constipation.

Boardman Reed describes it as being most often caused by prolonged constipation, dependent on long standing chronic intestinal catarrh of the ordinary form, though of mild degree.

J. P. Tuttle does not lay much stress on the neurotic element in discussing the etiology, but considers mucous colitis due mostly to fermentative or irritative processes in the intestines, or, as he expresses it, to organic causes.

Pathology. It is divided into two forms: The first, where there are no appreciable pathologic changes, into mucous colic; and, where the changes are evident, into mucous colitis. In the latter class there can always be demonstrated a certain amount of enteritis, and, I might add, that most observers at present are inclined to consider the latter a rule, and the former the exception.

Symptoms. The patient generally gives a history of digestive disturbances, which have appeared at irregular intervals for quite a while. Many of them mention "nervous dyspepsia" or "cramps of the stomach." There is often an aching in the supra-pubic region before the bowels move, followed by ease after a good evacuation. Generally there is constipation, with occasionally diarrhea, white coating on the tongue, and poor circulation, with its attendant susceptibility to colds and drafts; a muddy complexion, frequent lassitude, and a pessimistic mental attitude. Insomnia is a common symptom. On palpation of the abdomen nothing abnormal can be found, or there may be discovered some tenderness in the line of the colon. There is a ptosis of the abdominal viscera in many cases, with a relaxation of the abdominal walls. The most prominent symptom, however, is pain, paroxysmal in character, coming on during a period of constipation, accompanied by griping, and followed by the passage of small or large quantities of mucus.

Treatment. This resolves into two divisions: Treatment of the acute attack and treatment later of the general condition of the patient.

To relieve the pain and intestinal spasm a hypo. of morphine, or a suppository of ext. opium and ext. belladonna should be given, and repeated in an hour if necessary. The

sufferer being in bed, hot applications, such as flax-seed meal poultices, hot wet compresses, or turpentine stupes should be applied to the abdomen, while repeated flushing of the colon should be resorted to, thereby hastening the removal of the offending accumulation of mucus. After the most acute symptoms have subsided the injection of a half pint or pint of cotton seed oil or sweet oil will soften up and aid in the removal of any hardened or adherent mucus.

To effect a cure much cream and fat, and a course laxative diet, including grains legumens, and other vegetables containing plenty of cellulose. The breads should be such as graham or corn bread, as they have a large proportion of husks to fill up the bowel. Fruits with small seeds or thick skins, as currents, raisins, grapes or prunes may also be allowed. This diet is, of course, not suitable where an enteritis, or a true colitis exists.

When the patient is first put on this liberal diet there is often some disturbance for a few days. It is best, for this reason, to keep him in bed for a short while, using hot application to the abdomen, massage, and, if necessary, an occasional suppository of opium and belladonna. In the great majority of instances in three or four days the pains will cease and the mucus will either disappear, or be soft and glairy showing that it was recently secreted. Free irrigations with warm water should be practiced every alternate day. In some cases vibration over the colon will yield an almost magical effect.

After a fair trial of dietetic and medicinal measures a speedy relief is not obtained appendicostomy may be performed.

Dr. George H. Noble, of Atlanta, has operated on twenty-three cases during the past two years, affecting an anastomosis between the lower portion of the ileum and the sigmoid flexure, thereby diverting a part of the fecal current, and keeping the colon well drained.

At present there are under my observation two patients on whom is being used an extract of bile, as recommended by Nepper and Riva, but the treatment has not been in progress long enough to draw any conclusions as to its efficiency.

Many earnest workers are focusing their efforts toward a solution of this vexed question so we may confidently hope to soon see it cleared up, to the great satisfaction of these sufferers, and to the credit of the medical profession.—*Southern Medical Journal*, (Vol II, No. 5.)

CONGENITAL DILATATION OF THE COLON OR HIRSCHSPRUNG'S DISEASE.

The following case is reported on account of the extraordinary interest such an unusual condition affords and also for the reason that a valuable and practical lesson can be gleaned herefrom. There can be no doubt about this condition prevailing with much greater frequency than has been formerly supposed, the difficulty being in our inability to recognize its presence.

In the January session of the Gesellschaft für Innere Medizin und Kinderheilkunde, in Wein, Dr. S. Bondi presented a patient affected with Hirschsprung's disease, i. e., congenital dilatation of the colon. The same patient was presented eight years ago to the Gesellschaft der Aerzte by Dr. Federn. The case is that of a man 59 years of age who, from his earliest infancy was affected with retention of feces. At the same time he suffered constantly from distention of the abdomen, which gave him heart trouble and dyspnea. The patient relates that in his second year of life he was brought from his Moravian home to be treated for constipation. Dr. Bondi mentioned that the patient frequently went without a passage from his bowels for three months, then he would frequently introduce a rectal tube and prepare injections, but even this means often failed of results. When at the present time all measures failed again to do him any good he came to the hospital for treatment.

The patient is quite emaciated. Musculature and panniculus adiposus are very weak. Skin is somewhat dry. Respiration is very labored and strained and purely costal. The thorax in its lower part is distended like a barrel. The lung limit in the front is at the upper margin of the fifth rib and behind at the ninth spinous process. The arch of the aorta at the jugulum (suprasternal notch), denoting a high position of the diaphragm. The heart is very much overlapped by the lung, and like the palpable arteries presents the evident conditions of arteriosclerosis. The abdomen is of immensely distended volume. The flanks are very convex. The abdomen everywhere gives either a tympanitic or a meteoristic sound (on percussion): its skin is tense and glossy. This extreme degree of distension the patient is able to ameliorate by a peculiar way of getting away with the gases. He kneels on the ground, drops his head strongly down and elevates the nates, and in this position the gases escape.

Examining now the patient's abdomen, it is found to be softer and distinct outlines of intestines become noticeable. Specially

prominent is one piece of intestine, which is far thicker than a man's arm and extends from the middle of the left costal arch to about the middle of the right Poupart's ligament and exhibits considerable peristaltic movements. When the peristalsis is at its highest the otherwise soft segment of intestine becomes hard and tense. In the right mesogastrium there are distinct rigidity of small intestines, probably in consequence of hindering the passage of the small intestine by the above mentioned portion of enlarged intestine, which denotes everywhere a vast accumulation of feces, by Gersuny's adhesive phenomenon where the whole internal side of the intestine seems to be plastered over with fecal masses. On rectal examination also we come upon a mighty fecal tumor which is covered over with mucous membrane and forms the roof of the wide ampulla there. At present we are trying to soften the fecal masses with oil enemas and then washing them out with water.

The conditions disclosed plainly permit us to interpret them as a congenital dilation of the sigmoid flexure, hence as the Hirschsprung's disease. Especially remarkable is the case for the patient's age to which he has attained, for most cases of this kind succumb in early life to this abdominal condition. His age forbids operation.—*Weiner Medizinische Wochenschrift*, 1909, No. 9.

DEPARTMENT OF PEDIATRICS.

By HUGH N. LEAVELL.

Next to a normal proportion of muscular tissue, the haemoglobin may be called the most important index of the child's resistance. Parents seldom notice any slight pallor, and fresh air in abundance and at all times is one of the most effective agents in producing good blood. A complete rearrangement of the infant's hygiene may be more effective than the administration of iron in bringing about improvement. Fresh air, however, alone, without attention to its unobstructed entrance to the lungs, is not sufficient, and possibly no single factor recently employed has been more effective than the attention given to hypertrophied tonsils and adenoids. What difference does good climate and good air make if we do not open the windows and let it in. The naso-pharyngeal orifice is nature's window for the lungs and if it be closed; residual air is increased and respired air diminished, improper ventilation and constant CO₂ poisoning results. Improper oxygenation of the blood is one of the most important factors in the causation of anemia and its attendant chain of evils.

Open up the "lung" windows. Valid

contraindications are rarely seen to early surgical attention to these matters, even before the expiration of the second year, if symptoms of mouth-breathing are seen. In the writer's personal observation of over twelve hundred cases he has seen no deleterious results from a general anesthetic, lessening, as it does, the shock to the nervous system of the child and enabling the operator to do much better work. The writer would urge the lateral prone position as being one best facilitating drainage from the mouth and nose and preventing the aspiration of blood into the lungs.

It is possible to preserve mother's milk, by gentle heating, with the addition of hydrogen peroxide, without impairing its excellent nutritional properties. This preserved mixture is much better adapted than cow's milk for the first nourishment of premature infants, delicate babies, and newborn babies in general, which for some cause or other cannot be raised on the breast of mother or wet nurse. It is, furthermore, an important therapeutic agent in enteritis due to an unnatural mode of nutrition. By the adoption of this method of utilizing mother's milk, which is otherwise wasted, it will prove possible for an institution to raise newborn children naturally and successfully when wet nurses are not available.

TREATMENT OF CONSTIPATION IN INFANTS.

The following epitome from the Edinburgh Medical Journal is of interest in this connection. "In breast fed babies this condition is sometimes due to constipation in the mother, often brought about by her leading too indolent a life, or drinking too much tea, both of which can be easily rectified by a change of the mother's habits. A deficiency of fat and too little sugar in the milk is a common cause. The addition of malt liquor to the mother's diet has the effect of raising the fat percentage in her milk. A single bottle in the day to the baby of some malted food is frequently efficacious. In bottle-fed children the hard indigestible casein and deficiency of fat are the most common causes. These can be overcome by the addition of cream and the greater dilution of the milk, preferably by oatmeal water. It must be remembered that sterilization of the milk is apt to cause constipation, and a change to raw milk is often all that is required. It must be kept in view that too much fat, as well as too little, is sometimes responsible for the constipation, by causing intestinal indigestion, and covering the feces with mucus, which renders them slippery and difficult of expulsion. Orange juice and cod-liver oil are especially useful in rickety and scorbutic children. Dietetic measures should always

be tried before drugs, as when the latter are once employed they frequently require to be increased in quantity. No plan is worse than the administration of a purgative every few days. A few grains of phosphate of soda or milk of magnesia, when added to the feeding-bottle, are the drugs the author has found most efficacious. Injections of suppositories are not to be recommended for frequent use, as the parts soon become insensitive to stimulation. For occasional use, high injections of olive oil are sometimes serviceable. Suppositories containing aloin, belladonna, and nuxvomica are better than soap and glycerine, which are too stimulating. When the stools are gray or clay-colored and offensive, and accompanied by flatulence, nothing is better than a course of gray powder. In older children the insistence of cultivating the daily habit is of the greatest importance.

In the matter of diet, porridge taken with golden syrup, brown bread with plenty of butter, green vegetables, fruit raw or cooked, the limitation of milk, and the advance of white bread and the starchy foods are the main dietetic indications. Malt and cod-liver oil in rickety and atrophic children are often invaluable. The author considers the most useful drug to be the various compounds of cascara. It acts better when given in small doses, three times a day, than in a larger dose at night, and when combined with equal parts of liquid extract of licorice and glycerine it seldom fails to effect a cure when persevered with for some time. Another old-fashioned method which is of great service is the administration of sulphur and cream of tartar. When mixed with syrup of lemon so as to form a paste it is quite palatable, and readily taken by young children.

SPLANCANIC ARTERIOSCLEROSIS.

[CONTINUED FROM PAGE 1207.]

E. S. Allen: I think we all realize that this is a most important subject. It is necessary, during the period of digestion, for the vascular system to be capable of dilating and creating hyperemia at this point. When we have stiffening and contraction of the vessels it naturally gives us an ischaemic condition which results in impoverished secretions. I do not exactly agree with Dr. Weidner that prolonged intra-arterial pressure results in arteriosclerosis; I think it is rather a sequela to arteriosclerosis. Toxic products of bacterial origin absorbed from the gut have a tendency to produce a degeneration of the muscular and endothelial cells rather than an hypertrophy. We know that toxic products, such as syphilitic and alcoholic toxins,

passing through the liver, create a parenchymatous degeneration of the liver cells, whereas the same toxins acting on connective tissue results in hypertrophy. I think this same process takes place in the arterial wall and we have degeneration of the muscular coat and endothelia. When the tissue becomes hard and fibrous, it necessarily mechanically contracts and squeezes the muscular and endothelial coats, thereby impoverishing them. The fibrous coat which does not give produces an hyper-tension, and this in turn produces little breaks in the endothelial cells, and the constant attempts at repair fills up the lumen of the vessels. Generally, filling up of the artery is the result of repair of the endothelial cells rather than an hypertrophied condition. In a cross section we will find degeneration of the muscular coat. The artery is hard and inelastic and on account of venous congestion, as a result of constriction of the fibrous coat of the vessel, we have a deposit of lime salts.

BOOK REVIEWS.

"Medical Diagnosis," by J. C. Wilson, A. M., M. D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and physician to its Hospital; Physician to the Pennsylvania Hospital; Physician-in-chief of the German Hospital, Philadelphia.

Octavo, 1,478 pages, 408 text illustrations and 14 full page plates. Cloth, \$6.00. J. B. Lippincott Company, Publishers, Philadelphia and London.

The treatment of the subject matter has been arranged under four main headings, with a view of simplifying the text. The first part on Medical Diagnosis in general includes medical topography, examination of patient and case-taking. In the second part the methods and their immediate results of examination is discussed. Special attention is given to sputum, blood, exudate, eye and X-ray examinations. The third part is devoted to symptoms and signs, and is abundantly illustrated. The fourth part contains the clinical applications of all previous examinations, all the infectious diseases, and diseases due to animal parasites, diseases of the digestive and respiratory systems. The illustrations are drawn from the personal experience of the author, and have been selected to elucidate the subject in hand. Many diagrams have been employed when this method of presentation has appeared desirable.

A Practical Study of Malaria.—By William H. Deaderick, M. D., Member of American Society of Tropical Medicine; Fellow London Society of Tropical Medicine and Hygiene. Octavo of 402 pages, illustrated. Cloth, \$4.50

net; Half Morocco, \$6.00 net. W. B. Saunders Company, Philadelphia and London.

It has been said that "There are more mistakes made in the diagnosis of malaria with the microscope than perhaps any other similar study; on the other hand, if properly employed it may give reliable information leading to the saving of life." Following the above the general practitioner will welcome this volume written by one of their number, whose private practice is largely in country districts in the home of the severer forms of the disease. The etiology and prophylaxis are clearly discussed. The parthenogenetic cycle of the parasite, discussed by Schaudinn is for the first time translated in our language.

The anatomy of the mosquito is given very minutely with description of the larvae and its breeding places. The method of obtaining blood specimens is given in detail and directions for staining. The clinical history, pathological anatomy and treatment of all forms of malaria are ably written.

The Popes and Science—The Story of the Papal Relations to science from the middle ages down to the Nineteenth Century. By James J. Walsh, M. D., Ph. D., LL. D. 400 pp. Price, \$2.00 net; postage, 15 cents extra. Fordham University Press, N. Y. City Office, 110 West 74th Street.

Dr. Walsh has told in this volume a surprising story. Nearly every one assumes that the Popes were somehow opposed to science. Dr. Walsh shows from documents and the most recent authoritative histories of science, and especially of medicine, that instead of opposing, the Popes were as judicious and beneficent patrons of science as they were of art. For seven centuries the Papal Physicians have been the greatest medical investigators and writers in medical science, and no other set of men connected by any bond in history, even the medical faculty of any of the large Universities, can compare with them in accomplishment. They include the Father of Modern Surgery, the author of the first great dictionary of medicine, the author of the first treatise on gun-shot wounds, the Father of Comparative Anatomy, the discoverer of the circulation of the blood in the lungs, the anticipator of Harvey in the discovery of the systemic circulation, one of the great founders of modern clinical medicine, while the Father of Modern Pathology was a personal friend of four Popes and always stayed at the Papal Palace when he visited Rome. For over two centuries the greatest Medical School in the world was the Papal Medical School at Rome. Its greatest rival was at Bologna, which after 1512 was in the Papal States. Two other Medical Schools, Ferrara and Perugia, were also in

the Papal Dominions. Until the beginning of the nineteenth century Italy was for the world the Mecca of graduate teaching in science just as Germany has been for the last half-century. History has no record of Papal opposition to science except the Galileo case, which was an unfortunate incident, personal in character, but not a part of a policy. The Father of Modern Geology was a convert to Catholicity, afterwards a priest, a personal friend of the Pope and then a Bishop. The great scientists of the Middle Ages were clergymen and many of them were canonized as Saints. Dante is the typical University man of his time, and no poet of the modern time knew as much about science as he did. All the talk about Papal opposition to science has been pure assumption, founded on religious intolerance bolstered up by the Galileo case. In spite of frequent assertions, there are no Papal prohibitions of anatomy nor chemistry, and above all not of surgery, which developed very wonderfully in the Middle Ages. Instead Dr. Walsh shows enlightened patronage and generous encouragement of science on the part of the Popes. The book will be the sensation of the year in educational circles.

The Renewal of Life, Arguments for Subcutaneous Injections of oil in the cure and prevention of senility and disease; for making of the acme of abundant health, stamnia, rigor, vitality and constitution, for the cure of consumption and other diseases, particularly those of a chronic nature, by Thomas B. Keyes, M. D., Chicago; Chairman of the first organization committee of the American Congress of Tuberculosis, one of the Vice Presidents of the International Congress of Tuberculosis, 1904. The Tubercle Press Bureau, Chicago, Ill.

The author recommends the deep injections subcutaneously for the treatment of tuberculosis and other wasting diseases. He describes his methods and gives glowing account of his results.

The Diagnostics of Internal Medicine, a clinical treatise upon recognized principles of medical diagnosis, prepared for the use of students and practitioners of medicine, by G. R. Butler, M. D., Sc. D., LL. D., Physician-in-chief, Methodist Episcopal Hospital, Attending Physician to Brooklyn Hospital, Consulting Physician to Bushwick Central Hospital; Coney Island Hospital, etc. Five color plates; 272 illustrations and charts in the text. Third revised edition. Cloth, \$6.00. D. Appleton & Company, Publishers, New York and London, 1909.

There is no other book on diagnosis from the view of practical clinical work that fulfills the need of the busy practitioner and student as this volume. It is divided into two parts.

Part I.—The Evidences of Disease—Comprises

(1) a brief consideration of the clinical anatomy and physiology of certain organs and systems; (2) a description of the approved methods of examination; (3) a careful consideration of the many signs and symptoms encountered in the practice of internal medicine; (4) a statement of the diagnostic significance of each sign and symptom.

Part II.—Diagnosis, Direct and Differential—Contains (1) Descriptions of recognized disease and their symptoms; (2) special reference to diagnosis, direct and differential of each special disease.

The illustrations are abundant and the book thoroughly fulfills its purpose, which is to facilitate in a practical way the making of a thorough examination and a correct diagnosis.

The Prevention and Treatment of Abortion, by Frederick J. Taussig, A. B., M. D., Lecturer in Gynecology Medical Department, Washington University; Obstetrician to the St. Louis Maternity Hospital, Gynecologist to the St. Louis Skin and Cancer Hospital, Fellow of the American Gynecological Society and American Association of Anatomists. Fifty-nine illustrations. Price \$2.00. C. V. Mosby Company, St. Louis, 1910.

As all physicians of every capacity have this condition to deal with, this volume of 180 pages fills an important need in medical literature. General considerations, preventions and treatment constitute the topics discussed.

In discussing operative technique the author recommends the finger as a curett when possible, a list of instruments, preparation of patient is given when operations are deemed resorted.

The Ophthalmic Year Book. Volume VI, containing a digest of the literature of Ophthalmology with index of publications for the year 1908, by Edward Jackson, A. M., M. D., Professor of Ophthalmology in the University of Colorado; George E. De Schweinitz, A. M., M. D., Professor of Ophthalmology in the Philadelphia Polyclinic. Illustrated. The Herrick Book and Stationery Company, Denver, Colorado, 1909.

The Ophthalmic Year Book has been prepared and published in the belief that every ophthalmologist should have at his command the most recent advances in this department of medical science. The appendix contains a full list of books and monographs for 1908, both from foreign and home journals and publishers.

Electricity in Gynecology, the practical use of electricity in diseases of women, by May Cushman Rice, M. D., Professor of Gynecology and Clinician in the Illinois School of Electro-Therapeutics; Member of the Chicago Medical Society and American Medical Association. Il-

illustrated. Price \$2.00. L. J. Lang & Co., Publishers, Chicago, Ill.

This manual devoted exclusively to treatment of gynecological conditions with electricity, gives in a brief and concise manner the therapeutic applications and the physiological action of the various currents. The book is intended to supplement a course in electro-therapeutics and gives the general practitioners a useful knowledge of the application of electricity.

International Clinic, a quarterly of clinical lectures and especially prepared original articles, by the leading members of the medical profession throughout the world, edited by W. T. Longcope, M. D., Philadelphia. Volume IV; Nineteenth series, 1909. J. B. Lippincott Company, Publishers, Philadelphia and London.

This volume contains 28 contributors.

Under the department of Treatment, Dr. Flexner has a monogram on Anti-meningitis serum and the results of its employment. Dr. J. Stewart Rodman has reported 15 interesting surgical cases with colored photographic illustrations.

Dr. W. G. MacCallum, of Johns Hopkins, in the pathological department, has contributed a monogram on Absorption from the Peritoneal Cavity.

Dr. A. D. Willmoth, of Louisville, has a very interesting and valuable article on conditions modifying operative work.

Manual of the Disease of the Eye, for students and general practitioners, by Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Attending Ophthalmic Surgeon to Mt. Sinai Hospital, New York. Sixth Edition; thoroughly revised with 362 original illustrations including 22 plates with 62 figures. Price \$2.00 net. William Wood & Company, New York, 1909.

This edition has been thoroughly revised and the author has endeavored to present a concise, practical and systematic manual of the diseases of the eye, intended for the student and general practitioner of medicine. The book is not recommended as a substitute for larger works, but as a means of supplying a foundation of a knowledge of those affections a practitioner is called upon to treat.

Medical Sociology. A series of observations touching upon the sociology of health and the relation of medicine to society, by James P. Warbasse, M. D., Surgeon to the German Hospital; attending surgeon to the Teney Hospital; 355 pages. D. Appleton & Company, Publishers, New York and London.

The volume is divided into two parts; the first

includes chapters dealing with questions that are of greater interest to the laity and the second part has special interest for the medical reader.

It is written in an earnest, practical style and is an appeal for more thorough knowledge by the people of the causes and preventions of disease.

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To the department in Gynecology, Dr. J. A. Sampson has contributed a monogram on Cancer of the Uterus, which every doctor should read and every woman. It is splendidly illustrated, terse and to the point in style.

Dr. John B. Roberts has a clinical lecture on Reconstructive Surgery of the Face, and Dr. P. L. Mummery on Diagnosis of Cancer of the Large Intestine.

The Principles and Practice of Medicine, designed for the use of practitioners and students of Medicine, by William Osler, M. D., Fellow of the Royal Society, of the College of Physicians, London, etc. Seventh edition, thoroughly revised. D. Appleton & Company, Publishers, New York and London, 1909.

Osler's Practice of Medicine needs no introduction to our readers. This edition has been thoroughly revised, many new chapters have been added. The subject matter is thoroughly up-to-date, incorporating many additions that has been added to medical science in the last three years. More details are given to treatment in this volume than has been Osler's custom in previous editions.

Bismuth Paste For Fistulas.—Maclaure found the bismuth paste of the greatest use in defining the indications in a case of tuberculosis of the spine, and he commends it for all such cases when examination of the urine shows the integrity of the kidneys. This preliminary examination of the urine is especially necessary, he asserts, when there has been long suppuration.—Archives Generales de Chirurgie, Paris.

KENTUCKY MEDICAL JOURNAL.

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DESERVED TRIBUTE TO OUR "PEER-LESS LEADER."

The profession of Kentucky has stood by and for Dr. Simmons and what he represents so loyally from the very beginning of his remarkably successful career as national secretary and editor, that it will give them pleasure to read an article which is reproduced in this issue from the *Midland Drug-gist and Pharmaceutical Review*, one of the leading drug journals of this country. The occasion for the editorial was the election of Dr. Simmons as one of the Board of Trustees of the United States Pharmacopeal convention. Both the honor of the election and the comments thereon shows not only that his high character, ability and effectiveness are recognized by the members of a vocation so related to ours as to best qualify them to estimate these things, but it forcibly estimates how futile have been the attacks so persistently made upon him, because he did his duty, by the dishonest element of the proprietary interests which were so long permitted to prey upon the profession and people, supported by a few well-meaning members of our own profession who were the more easily misguided because they had in one way or another become disgruntled. It was said of one of our great presidents, whose personal and public record and character were assailed by disturbed interests, "We love him for the enemies he has made," and in and outside of the profession the same feeling is being constantly manifested toward Dr. Simmons. It also forcibly illustrates again the truthfulness of that homely old adage that "Honesty is the best Policy," however much temporary misunderstanding or unpopularity it may bring.

SCIENTIFIC EDITORIALS.

TUMORS OF THE BRAIN.

Tumors of the pituitary body have already been considered in this series of articles. Tumors of the posterior cranial fossa are right now claiming the most widespread and general attention. In fact, surgery of the cerebellum is destined for the spot light in the next two or three years. In some quarters it already is claiming and receiving the lion's share of attention. The interest is gradually spreading, from these centers, over the entire country and from now on our journals will contain reports of removal of cerebellar tumor coming from all parts of the compass. Not because such maladies will grow, or are growing in frequency, but because clinicians will recognize them in time for operation to hold out some hope of relief. Frazier, in *Progressive Medicine* for March, 1906, notes that surgery of the brain was then in the midst of a revival period, and the tide of enthusiasm is still swelling with reference to invasion of the occipital fossa. In that issue he reviews the work done to date and offers a technique which has hardly been improved upon up to the present time; not only removal of tumors but the incidental division of nerves for relief of certain conditions is referred to. The accessibility of the fifth, seventh and eighth nerves are especially noted and division of the fifth and eighth nerves in this locality as therapeutic measures is suggested. Six cases of tumor removal are reported with one death. The principal danger attending the operation is pressure upon the medulla and pons during the operative manipulations; 116 cases are reported from the literature.

The Character of the Tumors Growing in the Cerebello Pontile Angle: "Many are neurofibromata and are associated with more or less extensive central neurofibromatosis."

As a diagnostic sign the presence of deafness on one or both sides is spoken of. When deafness is bilateral it is probable there is a tumor on both sides; also a central neurofibromatosis. While these tumors are of slow growth they are ultimately fatal. However, the tumor is usually solitary, not adherent to surrounding structures, takes its origin from the auditory nerve, and is absolutely benign.

A patient was shown to the University of Pennsylvania Medical Society by Dr. Frazier, from whom he had at different times removed almost one entire hemisphere of the cerebellum on account of a glioma. One of the most interesting features of the case from the clinical point of view is the comparative impunity with which so large a proportion of the cerebellar hemisphere may be removed. In this particular case the headache, choked disc and vertigo subsided very rapidly after each operation, and the patient always reacted promptly and in no instance save one and then only for a short time was the operator concerned about his immediate recovery.

Dr. Willy Meyer reported a case of tumor of the acoustic nerve to the New York Surgical Society March 25, 1908, which is published in the *Annals of Surgery*, Vol. xlvii, Page 309. The technique is described in detail and the results were satisfactory. In the discussion which followed Dr. George Woolsey admitted having operated three times for a similar condition, each time with a fatal result. In Dr. Meyer's case there was marked cerebellar gait, dizziness and almost complete blindness, with persistent vomiting and headache. There was increasing deafness; on one side facial paralysis and loss of the corneal reflex. Upon these symptoms the diagnosis of an acoustic nerve tumor was based. Dr. Charles A. Elsberg in discussing Dr. Meyer's case said he had two cases of pontocerebellar acoustic tumor. His first case died on the third day from suppression of urine. In his second case he removed from the pontocerebellar angle a tumor twice the size of an almond. Recurrence took place in ten weeks and the patient succumbed. The post-mortem revealed a second tumor, a neurofibro sarcoma in the middle fossa on the base.

A very interesting article upon the "Value of Trephining as a Palliative Measure in Tumors of the Brain," appears in the *Annals of Surgery*, Vol. xlv. Page 543, by Dr. Herbert A. Bruce of Toronto. He sets down as the classical symptoms, Optic Neuritis, (which usually ends in total blindness) severe headache and vomiting. In no case, says he, quoting from Sir Victor Horsley, of

optic neuritis, excepting those of toxæmic or anaemic origin, should the process be allowed to continue after it has once been diagnosed, and if blindness results therefrom the responsibility is very heavy upon any one who fails to advise an opening of the dura. Dr. Bruce reports five illustrative cases. In the *Journal of the American Medical Association*, Vol. xlv, No. 25, Spiller reports two cases of hemicraniosis. In both an endothelioma was found growing from the dura and pushing the brain before it. In both operation was attempted, but in the first case the bone of the cranium was so implicated by the tumor, and hemorrhage on this account was so profuse, that all attempt to remove the tumor had to be abandoned. In the second case there was disappearance of nearly every symptom and was the result of decompression, and relief lasted several months.

In Dr. Spiller's article he quotes successful removal of tumors by Oppenheim, Krauss, Keen and Bocharde. One as large as an egg removed by Oppenheim and Bocharde from the cerebellar pontile angle. In both of Dr. Spiller's cases trauma was a feature of the personal history.

Cushing, in his article before the American Medical Association in 1908 calls especial attention to the risks incurred from anesthesia in cranial operations, especially in the presence of tumor where the cardio-respiratory centers are already embarrassed through pressure. The need of an expert anesthetist for these cases is emphasized. Also the necessity of placing the patient in such a position on the table that respiration will be least interfered with is accentuated. A special device to support the head and shoulders in occipital and high spinal operations is illustrated. In a foot-note he adds: "My first operation for a cerebellar pontine tumor resulted in a death from inhalation pneumonia—an experience which led to the adoption of this particular form of table extension. Since its employment I have had two successful extirpations of these lateral recess growths." In the text of the same article he states moreover: "It has been possible in my 24 cerebellar cases largely owing to this device to complete the operation in one sitting and thus avoid a two-stage performance—especially undesirable in suboccipital work." In the same essay the author gives a detailed account of his decompressive idea and calls attention to the dangers of lumbar puncture when the tumor exists below the tentorium cerebelli. This feature has already been alluded to in a former installment of this series. The principle of bilateral opening for outward

dislocation of brain tissue as an expedient in the location and removal of tumor has also been referred to, but as a matter of great importance it is worth repeating. In Hartley's essay before the American Medical Association in 1908 complete tables of statistics are published showing operative results as modified by different conditions. A careful perusal of this essay will repay any one who is interested in brain surgery, and if I may be permitted I should strongly urge the careful study of these two essays (Hartley and Cushing) by one who has a brain tumor in prospect for operation. Hartley advises to operate when a tumor is suspected. If a diagnosis of location cannot be made, select one of three regions, temporal, parietal, or cerebellar. "The time for operation is the beginning of optic atrophy." Hartley says further: "When symptoms of pressure exist and the disease or tumor is not or cannot be removed the operation for decompression is for the following reasons: (1) It is an operation without danger; (2) the optic atrophy disappears in 6 to 8 weeks if operation is early according to de Schweinitz; (3) according to Von Bergman the patients in 65 per cent. of cases have shown amelioration of cephalalgia, stupor, vomiting, convulsions, paralysis and optic atrophy for periods ranging from one month to one and one-half years; (4) Borchardt says that in pseudo tumors and meningitis serosa with hydrocephalus it has been curative. * * * In any case the dura may be excised, divided, or left intact. Opinions are divided."

The history of the decompression effects of removal of portions of the skull as applied to cerebral neoplasm is adequately set forth in the article by Drs. Frazier and Spiller, (*Journal of the American Medical Association*, Vol. 47, Page 679.) Cushing names Dr. Robert F. Weir, of New York, as being among the first to note the beneficial effects of opening the skull in cases of suspected or irremediable tumors. Horsley thinks that some tumors are so interfered with in their nutrition by opening the skull and suddenly altering the pressure therein that they forthwith degenerate. * * * Horsley says also that he has found in every case the effect of opening the skull has been to relieve headache, and further that in cases where it was known before operation that the tumor could not be removed relief from severe pain afforded by opening the skull persisted until the patient died." He also makes the following very significant statement: "If atrophy (optic) has commenced the condition is hopeless. If there is any atrophy present no amount of reduction of pressure within the skull will produce the slightest change or af-

ford the slightest relief in respect to the loss of vision. If there be commencing atrophy, after operation the neuritis that may be present will disappear, but the atrophy is permanent." (Frazier and Spiller, *Journal A. M. A.*, Vol. 47, Page 680). Some astonishing and brilliant results are recorded in this article of Drs. Spiller and Frazier, especially with regard to headache. A perusal of this essay leads one almost to the conclusion that all severe persistent headaches are due to the presence of tumor and can be relieved by a decompressive operation. The point is expressly brought out, "that it is a mistake to regard palliative operations as a substitute for radical operations. The tumor should be removed whenever this is possible and palliative measures are to be considered only when the tumor cannot be located or is too large for removal or is possibly a glioma," and further "that the authors have never seen arrest in the growth of a tumor following the removal of a part but several times have seen increase of symptoms result and dread the partial removal of a growth, especially if it is a glioma. The attempt should never be made to remove a glioma. It is better to leave a tumor untouched if only a part can be removed.

The following are the conclusions of Dr. Spiller:

(1) Palliative operations should be performed early in every case in which symptoms of brain tumor are pronounced and before optic neuritis has advanced far, especially where syphilis is improbable or antisyphilitic treatment has been employed. (2) Partial removal of a tumor, especially of a glioma, is a questionable procedure; (3) palliative operation does not cause atrophy of a brain tumor and probably does not arrest its growth. On the other hand it probably does not hasten its growth; (4) palliative operation is not to take the place of a radical operation when the latter can be performed without great risk to the patient; (5) in some cases the symptoms of brain tumor disappear almost entirely for a long time or permanently after a palliative operation. This result is obtained either by relief of intracranial pressure or by removal of some lesion (meningitis serosa, etc.) other than brain tumor and yet causing the symptoms of tumor.

As stated in the article from which these references are drawn, "the absence of mortality in Dr. Frazier's list of eleven cases (reported in Sept. 1906) is noteworthy, thus placing the operation of decompression in the class of safe procedure. The operation offers relief to the patient from three cardinal symptoms of cerebral tumor, headache,

nausea and vomiting; restores vision, and, if the lesion is in the cerebellar fossa, relieves ataxia and vertigo.

The question of whether the dura should be always opened is still a debatable and unsettled one. Frazier makes the following statement with reference to that point (*Jour. A. M. A.*, Sept. 8, 1906): "Without exception the choked discs subsided in every instance, but unfortunately in at least three of our cases the patients remained totally and hopelessly blind, because the optic neuritis was of so long duration that the nerve had undergone atrophy. The subsidence of the choked disc takes place as rapidly when the dura is left intact as when it was incised. The case which in Dr. de Schweinitz's opinion and experience responded most promptly to the operation was one in which the dura was not disturbed. That the dura will stretch when the overlying bone is removed sufficiently to afford adequate relief of tension has been demonstrated in our cases over and over again. * * * Whatever else may be said either in favor of or against the incision of the dura it should be borne in mind that if the dura is incised and any complication arises in the repair of the wound it is more than likely that a fungus cerebri will develop. * * * If the dura is disturbed at all the operator should be content with making a crucial or radiating incision in it and in many cases it may be advisable to reserve this step of the operation until indications arise for further intervention.

GEORGE A. HENDON.

ACCIDENTAL HEMORRHAGE.

Hemorrhage occurring in the latter months of pregnancy and due to the partial separation of a normally situated placenta, is known as accidental hemorrhage, whereas, the hemorrhage from an abnormally located placenta that is from a placenta previa, is called unavoidable hemorrhage.

It was formerly considered to be a rare occurrence, but late statistics from the large maternities give its frequency as 1 in 500 labors.

It may be due to endometritis, to nephritis or trauma and is more frequent in multipara than in primipara. It may be either external or concealed, the terms being self-explanatory.

When the hemorrhage is external, that is, escapes from the uterus and appears at the vulva, then it is due to one or two causes. Either the separation of the placenta has occurred at its lower margin, the hemorrhage is comparatively slight or the separation oc-

curs higher up in the placental mass with profuse hemorrhage.

In concealed hemorrhage, that is in that form in which the blood is retained within the uterus and there is no evidence of it externally, it is due to a central separation of the placenta, the blood accumulating there and separating the placental mass from the uterine wall by its presence.

In other instances, the blood accumulates between the membranes and the uterine wall and even perforates into the amniotic cavity.

In the concealed variety, the diagnosis is based upon the sudden onset of symptoms of shock and acute anemia in a woman known to be in the latter months of gestation. An examination should then show a uterus that is larger than the estimated time of gestation, that is unusually tense upon palpation and with the fetal heart sounds muffled and indistinct.

The only other condition that could produce somewhat similar symptoms in a pregnant woman, is a sudden rupture of an extrauterine pregnancy. When it is remembered that such ruptures usually occur not later than the third month and that in such cases you have in addition a well-defined mass either on the left or right side of an only slightly enlarged uterus, then there should be but little trouble in excluding this condition.

Hydramnios although presenting the signs of a tense boggy uterus enlarged beyond the estimated date of gestation with muffled fetal heart sound, would not of course of itself be attended with symptoms of shock and acute anemia.

In the external variety, the condition is differentiated from placenta previa by the fact that in the lateral variety of placenta previa the hemorrhage would not be apt to show itself until late in the pregnancy when the cervix begins to be obliterated by the extreme distention of the uterus. In the marginal or central variety of placenta previa, a boggy mass should be felt either by inserting the finger through the cervix if that is patulous or such a mass should be felt between the cervix and the presenting part. In the marginal variety, the mass should be felt to one side of the cervix.

In accidental hemorrhage, conditions upon vaginal examination are just as in ordinary labor cases. If the cervix is slightly patulous as is generally the case when a hemorrhage has occurred, then the finger can easily touch the presenting part with no placental mass intervening.

In the concealed variety active treatment must be instituted at once in order to save

the life of the mother. First of all because it is not possible to judge the amount of blood that has been lost and secondly because the separation of the placenta will increase in consequence of the accumulation of the blood between it and the uterine wall.

The hemorrhage continues, because in the separation of the placenta from the uterine wall, some of the blood sinuses are torn through and these are kept widely open as long as the uterus is distended with the child in its fetal envelopes distended by Liquor Amnii. It is only when the uterus is emptied of the product of conception and of the placenta that the uterine muscle can contract and effectively close the mouths of the bleeding sinuses. It follows then, that the treatment for the concealed variety must be radical. Labor must be induced and terminated as quickly as possible without regard to the child, the fetal mortality being very great in this condition under all circumstances.

Under general anesthesia and with all aseptic precautions, manual dilatation assisted if necessary by instrumental dilatation, should be practiced until the bag of waters can be ruptured and version can be performed. The utmost care should be used in regards to cleanliness, because patients that have suffered from hemorrhage are more liable to septic infection in the puerperium than normal cases.

After the delivery of the child, the uterus, of course, contracts down upon the placenta and the condition is partially under control. There should be but little delay in the delivery of the placenta, for fear of further hemorrhage. In most instances it should come away readily and yield to the Crede method of expression as it is partly separated from the uterine wall already by an intervening blood clot.

When expelled, the placenta should be carefully examined for a confirmation of the diagnosis. A large blood clot will generally be found covering a considerable area of the maternal surface of the placenta.

If the hemorrhage is external, the obstetrician is justified in delaying resort to delivery until he finds that the hemorrhage does not cease and the loss of blood is deleterious to the patient. The foot of the bed should be elevated and sedatives should be administered either per os or hypodermically or per rectum. It is useless of course to resort to styptics as it is hardly reasonable to expect them to affect the condition under existing circumstances. If the labor pains begin and the cervix dilates, then all attempts to check the process must cease and the physician remain with the patient constantly until delivery is affected. The foot of the bed should

be lowered and the patient even propped up in bed to gain the assistance of gravity in hastening dilatation. In most instances the hemorrhage oozing with and between pains, will also be lessened thereby and the patient may deliver herself naturally. At any moment, however, if any alarming symptoms due to the loss of blood, show themselves in the patient, then she must at once have the benefit of anesthesia and an artificial delivery either by version or forceps according to the progress that she has made.

In all cases, careful preparations should always be ready for controlling a post-partem hemorrhage and one or more doses of ergot had best be given the patient hypodermatically immediately upon the delivery of the placenta.

EDWARD SPEIDEL.

PHYSIO-THERAPEUTIC TREATMENT OF PNEUMONIA.

It is interesting to note the continued growth and appreciation of the value of certain physio-therapeutic measures in the treatment of acute infectious diseases. Meara (1), in an able article considers the treatment of pneumonia in a most plenary manner, taking up and describing in detail all the various features that go to make up the therapeutics of the disease. He pays especial attention to the "open air treatment," of which he says that "certain precautions must be carefully observed, more especially in cold weather. The bed is to be made in a particular way. Over the woven wire is to be spread a blanket, large enough to extend well beyond the sides and below the foot. Over this a rubber sheet or paper, and on these two is laid the hair mattress, upon which the bed may be made in the usual way. Then the blanket and rubber sheet are folded up over the mattress and its cover from either side and from the foot and closed after the fashion of an envelope, being secured with pins. The blanket and impermeable sheet protect the patients from currents of cold air, sweeping up under the bed and working into the clothes. A hot water bottle should be kept at the feet. The amount of clothes should be enough to keep the patient warm, but not overheat him and the material of the covers should be as light as possible, either down quilts, for example, so that the burden of clothes shall not embarrass the respiration or cause fatigue by mere weight. The patient should be in a light suit of flannel underclothes with stockings, and wear a hood. The nurses should be properly clad for out-of-door weather.

I wish my enthusiasm to be tempered with

judgment, but my own results both in the hospital and in private practice with this open air treatment have been such that I am tempted to eulogize to an extent that will mark me an advocate rather than the judge. Take a very sick patient from the ward into the open air and the improvement is almost immediate. Restlessness diminishes, the breathing is less labored, the quality of the pulse improves, and the whole picture changes. The expressions of satisfaction on the part of the patients are the most convincing evidence of its value. I have watched with interest the effect on the patient when the windows are closed and the room warmed to expose the body. Although the room had so recently been aired, the respiratory distress was evident in a few minutes and immediate relief was found when the windows were opened again. Now this could not be attributed to lack of oxygen. Such demonstrations have convinced me that the effect of the cold was no mean factor in the sum total of the benefits.

Of hydrotherapy, which has proven of so much value in this disease, he says that "an immense amount of comfort can be afforded a patient and perhaps curative influences be set up through the intermediation of the skin by local applications to that structure. I am convinced, too, that this part of our treatment, designated physical therapy, is sadly neglected. To give medicines is easy, but to carry out the various local procedures successfully demands exactness and nicety of technique that does not appeal to the leisurely disposed.

Of these topical applications, perhaps none can compare with water.

Cool and tepid sponging to afford the patient momentary comfort is done in a desultory and haphazard way and indeed, not in vain; but more lasting benefit, influencing to any degree the issue of events, can be obtained only by systematic and skilled use of the procedure.

Water is used, then, locally to: (1) Subserve the purposes of cleanliness and hygiene in the daily bath; (2) to afford momentary comfort, cooling the skin and refreshing the patient, and (3) to influence the disease. This latter is the most important and can be done by means of tub baths, cold sponging, cold packs, compresses, and other devices.

In this country we owe largely to Baruch's persistency what benefit is accruing to us from this mode of treatment. He maintains, and logically, that good results can come only from observance of his technique. His own preference in pneumonia is the chest compress. I can not do better than quote his precise directions and urge you to follow

them exactly rather than attempt to duplicate measures only vaguely referred to.

The chest compress is prepared by cutting three folds of old linen of a sufficient size to fit the entire chest from the clavicles down to the umbilicus, with arm-holes in the region of the axillae made by exact measure from one axilla to the other sufficiently deep to allow the upper edge of the compress to reach above the clavicles and admit of the junction of the flaps thus formed on each side, to cover the shoulders. Two such jackets, and two pieces of closely woven thin flannel of the same shape, but an inch wide and longer should be provided and fitted to the patient.

One of the linen compresses is rolled up and soaked in a basin of water at 60 degrees, F. and wrung out so that it remains quite damp without dripping. The flannel is now spread out upon an even surface and the wet compress put upon it, so that there remains an edge of flannel about an inch wide all around. Both are rolled together half way. While the patient is gently turned upon his left side, with the precaution of not allowing any exertion on his part, the compress is so placed upon the bed that the rolled part lies in close proximity to the left side of the patient and the lower edge of the left slit is under the left axilla. Now, the patient is quietly turned upon his back, so as to release the rolled up portion. The latter is now unrolled, and both edges of the compress are brought forward upon the front of the chest and are thus made to envelope the latter snugly. The flannel cover which has been allowed to lie upon the bed during the application of the wet compress, is now brought forward so as to cover the latter. It is secured by two safety pins in front and one upon each shoulder.

He goes on to say that it should fit snugly but not so tightly as to embarrass breathing. As long as the rectal temperature is above 99.5 degrees F. it is to be renewed about every hour. A fresh compress should always be ready for immediate application so that the chest shall not be exposed. Before taking it off, insert the finger beneath the compress to see if it is thoroughly warm, as it is not to be renewed if it is still cool. Dr. Baruch further adds: In the average case a temperature of 60 degrees F. will be appropriate. Should the patient evince stupor or muttering delirium, a lower temperature should be adopted and the chest should receive one or more dashes of colder water before the renewal of each compress. The same procedure is indicated in broncho-pneumonia, when the bronchi are blocked by secretions or cyanosis exists. * * * A higher temperature than 60 degrees F. may be used if there is much

jactitation, insomnia, or excitability. In the latter event great benefit will accrue from allowing the compress to remain two hours and moistening it more thoroughly before application, thus converting the compress into a soothing fomentation that is not relaxing like a poultice.

If the patient remains cold and blue and the compress does not become warm, then the flannel alone is applied until the skin becomes warm and a mustard foot-bath may be utilized. The rationale of the procedure is put as follows: When a compress at 60 degrees F. covered with flannel is applied around the chest of a pneumonia patient who presents a temperature of 102 to 106 degrees F. there is an immediate cooling of the surface covered by it, which is followed by a gradual reaction with a more or less rapid rise of the surface temperature, until the latter is nearly the same as it was previous to the application. The surface is now bathed in a vapor produced by the heating of the compress. If the latter be allowed to remain sufficiently long the flannel covering receives the vaporized water, and slowly passes it outward until the compress becomes dry. But if the compress is changed as indicated above, the vapor is more slowly removed, and the skin and compress are found to be cooler than is the flannel covering. Thus the gradual cooling process is continued until a fresh cold compress is applied, when the skin, more sensitive by reason of having been bathed in this warm vapor, feels the shock more distinctly and reacts more fully.

The error is not infrequently committed of covering a wet compress with oil silk defeating the object of the compress by converting it into a poultice.

It is asserted that "when the cold compress is applied, there is a rapid contraction of the cutaneous vessel, which raises the tension at once, but eventuates in a tonic dilation of these vessels, which is evidenced by a ruddy hue of the skin. This dilation differs very decidedly from that relaxed condition of the cutaneous vessels produced by warm poultices. The latter relax the vasoconstrictors, producing a paretic condition of the vessels, or a stasis, while cold applications stimulate the vasodilators, giving rise to an active dilatation, with maintenance of the tone of the vessels, an active hyperaemia by reason of which the blood is propelled more vigorously through them." The heart is relieved by the increased tone in the vessels. It has been shown that the pulmonary vessels are supplied by nerves rising from the second to the seventh dorsals, whose somatic supply is distributed to the skin of the chest and abdomen as far as the umbilicus. Through the effect

on this area of the cold compress, undoubtedly influences are exerted reflexly on the pulmonary vessels. The improvement is seen in the diminution of nervous manifestations, deepening of respiration, with relief of dyspnea, better tension in the arteries, better sleep, improved appetite, and freer functioning of skin and kidneys.

The value of the mustard foot-bath in those who react poorly, in the depression and asthenia of the senile and alcoholic is such that I will detail the procedure, as advised by Dr. Musser: The patient, with the night-gown drawn up, lies upon his back between blankets, the knees being flexed. A tub of water, as hot as the patient can bear, with its long axis parallel to that of the body, is placed under the feet. The vessel should be about half full of water and have added to it a powdered mustard in the proportions of one tablespoonful to the gallon. A blanket should be placed under the tub and be folded over its lower end so as to cover the knees. Finally, several blankets or one blanket and a rubber sheet should cover in the patient, tub and all. As the water cools, additional hot water should be carefully added. The time required is generally about half an hour, varying according to the amount of sweating produced.

I have gone into this detail because the very lack of it in my own instruction has kept me from pursuing many measures which I felt were rational and beneficial.

Now, I am not taking the attitude of an enthusiast. If I were willing to believe that the results attributed to this procedure in lowering the mortality of this dread disease to two per cent., or less were accurate, we should have solved its treatment once and for all. Can we never expect any better results from any serotherapy?

If these statistics did not share in the well-known habit of statistics, a neglect of this procedure would be criminal. Personally, I am not willing to forego the benefit of the open air treatment for the hydro-therapeutic, for you can see that hourly and half-hourly changes of compresses is scarcely compatible with what I have described as the open air treatment. As I have said before, I believe the success of the open air treatment is due in no small measure to the cold and so, in the warmer seasons, the cold water treatment could be better applied. Again, where it was evident that the open air treatment was not meeting our expectations, nervous symptoms, excitability, etc., increasing or stupor deepening.

When he comes to consider the question of fever, he accepts MacCallum's opinion that "fever is a specific reaction against injurious

materials which affect the tissues, and is in its essentials a protective reaction." In hyperpyrexia, that is to say, when the fever raises above 105 degrees F., he has the following to say: "That does not mean that hydrotherapeutic measures may not be pursued, for I have endeavored to explain that their value rests on their influence on the vital centres and that the fall in temperature is secondary in importance and too great a fall undesirable. But if the temperature ranges above the limits set, cold baths or sponges should be given until the temperature falls again within the limits. Cold, I believe, to be the only legitimate means of meeting hyperpyrexia, because of its beneficial effects on the important centres, while the use of antipyretics, though it be granted that they may have a sedative effect on overstimulated centres are still a two-edged sword, for they are distinctly depressive to vital centres and dangerously so. Do not use them. Do not take the fall of temperature as the sole criterion of improvement; but look well to the heart, blood pressure, respiration and sensorium.

In the treatment of pain, he does not lay the stress that should be laid, in the opinion of the reviewer, upon the analgesic effect of the ice bag, which Mays of Philadelphia has found so valuable in meeting the pain of the disease and at the same time locally influencing through its cold, the general process itself. Lees (2) has found that the application of the ice bag over the dull area and if necessary two bags, if the area is large, is very useful. If pericarditis is present, as a complication, or if the heart becomes weak, the ice bag placed upon the precordium will be found of distinct value in influencing the inflammation of the pericardium and strengthening the heart beat. Hot water bottles should always be applied to the feet and legs, during the application of either hydrotherapy or the ice bags to the chest. To those (3) who have employed teaspoonful doses of very hot water for the cough, will find that it is far better than codeine, morphine or any other such narcotics. Meara is right, however, when he says that one must look essentially to the cold air and hydrotherapeutic treatment for the prevention of cough and pain. It cannot be too often asserted and reasserted that cold water applied, with the open air method of hydrotherapeutic process is not intended for the sole purpose of reducing the temperature. Pneumonia being a self-limited disease, the aim is to tide the patient through the disease, conserving the vital force and causing the system to react to certain vital stimulants. This

is best accomplished by some form of cold, preferably by hydrotherapy.

Behrmann (4) after long experience with hydrotherapy in pneumonia has found it unquestionably the best method. The convalescence of such cases can be hastened and remnants of consolidation broken up by the intelligent application of physio-therapeutic methods.

CURRAN POPE.

ORIGINAL ARTICLES.

THE STATE JOURNAL AND THE STATE MEDICAL SOCIETY.

By J. M. PECK, ARLINGTON.

The theme is an inspiration to any Kentucky doctor who loves progress, and certainly every Kentucky doctor is rejoiced at each advance made or vantage point attained in the interest of mankind.

How we are thrilled with pride as we review the list of illustrious names of doctors of Kentucky nativity whose achievements in the way of original research and the application of principles already evolved have placed the medical profession of Kentucky in the forefront of progressive medicine. Their professional work and influence makes the lives of such men as McDowell, Gross, Flint, the Yandels, the Palmers and a number of others shine as stars of the first magnitude in the galaxy of lesser lights of the host of conscientious and resourceful medical men of Kentucky who have adorned our profession. How our hearts well up with gratitude and how we are lifted up with honest pride when we call to mind the gleam of light shed by the immortal McDowell, which light has grown brighter and brighter until with its brightness and marvelous healing power, it has encompassed the earth. Having such glorious examples to inspire us and such brilliant lights to illumine the way, what a wonder it is that we have a State Medical Society second to none and a State JOURNAL the peer of any State Journal, as a medium for recording and heralding the progress of medical science and the supporting of every factor which has for its object the upbuilding of our noble profession. As Kentucky leads in most everything else that's good, so she does in many things pertaining to medicine.

Our State Association having been organized about 1846, something over sixty years ago, and the major part of the leading doctors of our state having been identified with the society and its work, it has long been a valuable factor in the betterment of those interests which tend to the alleviation of suf-

fering, grief and loss occasioned by the untimely deay and death of our loved ones.

Though much good has been accomplished by the State Society, it was not until recent years, when our own J. N. McCormack, the leading spirit in effective organization in this country, and not surpassed by any in any other land, set about building up a more perfect organization. He, with the assistance of others, formulated a plan by which medical organization has taken on new life and has been made a most wonderful agent in bringing about a better state of feeling and a clearer understanding among the members of the profession. Through its influence, higher and yet higher ideals have been and are being raised and kept prominently before us. The altruistic and beneficent side of our noble calling has been given a new impetus. The utterly unselfishness of much of our work has been presented to the minds of the people in a way never before attempted.

They are beginning to regard us in the proper light, and appreciate the great work in which we are engaged. Their sympathy and aid are being elicited. Another encouraging feature which gives promise for the future is, the searehlight, with its penetrating rays has been turned on the profession with the result that greater effort and a higher degree of effieieney is demanded of those who are to be entrusted with the well-being and lives of those who make up our great Commonwealth. An united effort is now being made to fully instruct all the people as to the nature of, and how to stamp out the preventable diseases.

Sucess along this line was not to be hoped for unless we could first have thoroughly instructed and well organized forces with which to wage the warfare. Now that our organization is on a firm footing, something tangible can be done. The first important step towards progress after organization, or rather re-organization, was the founding of a mouth-piece for our organization, namely. The KENTUCKY STATE JOURNAL. Though it had so humble a beginning, and though we were then filled with anxiety lest its precarious life should be blotted out in its ineption, we now view it with pride and joy, for we feel that it is builded on a rock and we hail with pleasure its semi-monthly visits, bearing to us encouraging reports of the great work now being done throughout the State by wide-awake docters. What a stimulus these reports are to every lover of the work. With eagerness and enthusiasm he goes forth to renew the struggle with disease. Feeling assured of the very great importance of the work and inflenee of the State Association and its JOURNAL on the medical profession,

and through the profession, on the laity, it behooves us as members of the State Association and owners and patrons of the JOURNAL, to lend every assistance in our power to increase the influence for good and the growth of each of them. And how may every docter have a part in this exalted work? First, by coming into and being an active worker in the county society. Support every movement and measure adopted by your county or State Association; support the State and County Boards of Health. Support and encourage the officers placed in charge of these societies and those in charge of the Journal. Help the JOURNAL by sending it news items of interest to the profession, and by an occasional article. Stand by it in the matter of advertisements. Make it a point to purchase your supplies from those who advertise in our JOURNAL and thus show their appreciation of your patronage.

In this way much peeuniary assistance may be rendered with no loss to you and only a slight effort on your part. Try it. In this wise much can be added to our treasury which can be turned back to us in the way of improvement of the JOURNAL. We are all aware that the JOURNAL is an index to the energy and intelligence of the medical profession of the State; and in recognition of this fact, let us, one and all, with might and main uphold the State Association and the Journal. In helping either, the other is also aided. This means the constant elevation and the strengthening of the medical profession, which in turn enables the profession to wield a greater and ever increasing influence towards the education of the populace along the lines of private and public sanitation and hygiene, the very foundation and life of permanent national progress.

“WHAT MORE CAN OUR PROFESSION DO TO DECREASE THE SPREAD OF TUBERCULOSIS?”*

BY JACOB GLAHN, OWENSBORO.

To the inquiring mind, nothing is settled until it is settled right.

Having been commissioned by the Governor of Kentucky on the recommendation of the City of Owensboro, with the sanction of the medical profession of Owensboro and Daviess county, Kentucky, as a delegate to the International Congress on Tuberculosis, which was held in the National Museum Building, at Washington, D. C., September 21-October 12, 1908, I will make it the occasion to call your attention to the great ag-

*Read before the Kentucky State Medical Association, October 19-21, 1909.

gregation of men and women of science assembled from all over the world.

The exposition of pathological specimens on tuberculosis from the greatest medical museums of the whole earth, was as grand as it was immense, and was inspected by the delegates and visitors, and proved very instructive.

Assuming that the medical profession of Kentucky is conversant with the proceedings of the International Congress on Tuberculosis, I will now endeavor to draw upon some of my impressions received at the Congress.

Section 1 was the section for Pathology and Bacteriology. Subjects were discussed of cardinal interest to the humble bedside practitioner, the greatest specialist of them all. Dr. William H. Welch, of Johns Hopkins University of Baltimore, was presiding officer of this section, and the greatest pathologists and bacteriologists of the universe congregated here. Dr. Robert Koch divided his time especially with this section. No. 1, and Section No. 2, which latter section was presided over by Dr. Vincent Y. Bowditch, of Boston, and was for the clinical study and therapy of tuberculosis, sanatoria, hospitals and dispensaries.

In Section No. 1, I saw quart glass jars filled with amorphous substances, products derived from tuberculous bodies, some of which were labeled "deadly poison," with apparently the same substances in another jar were labeled "innocuous," "harmless," and one professor was telling the learned audience how he, by some chemical process, turned this tuberculous residue of the greatest toxic potency into the harmless residue contained in the glass jar labeled "harmless."

This, of course, is very scientific, and may some day find a practical application in the treatment of consumption, but being an humble bedside practitioner, I could not harmonize his logic with mine in the treatment of the patient in the different stages of tuberculosis.

Another great scientist spoke of certain soaps being formed in the animal body. At this statement, the humble bedside practitioner marveled, but could still find no relation between the normal living human body, or even the human body afflicted with tuberculosis.

From the sublime to the ridiculous is just a little step. The Germans say a good sound stomach can stand anything. So, while listening to these great scientists with all the decorum an humble bedside practitioner can afford, my fancy began to retrace itself to incidents in my very prosaic life of over twenty-five years of very active work

amongst the most miserably poor of Louisville and Owensboro, Ky. I wondered if the milk my patients drank gave them tuberculosis, and when the bacillus tuberculosis got into their stomachs, how he escaped alive. I also wondered what the first scientist with his glass jars would have found if he should have analyzed wienerwurst from Chicago, hogshead cheese from Cincinnati, or limburger cheese of uncertain vintage. They are all consumed in large quantities by the class of people I have come in contact with during the twenty-five years of my professional life, and I have never heard of any physical complaint, or any after effect.

THE TUBERCLE BACILLUS.

The tubercle bacillus is invisible unless stained. It was because of this fact that the nature of the bacillus which causes consumption of the lung tissue, and other tissues of the organism, remained a mystery for so long a time. When stained and magnified some two thousand times, it becomes visible, and may easily be detected in affected tissue.

The fact that it is *inert and immobile* has led to the conclusion that it is of *vegetable origin*. It has the power of rapid reproduction under *favorable conditions*, and not infrequently causes rapid decay of the affected parts. It lives only in darkness, and dies in sun light, fresh air and heat. The best information warrants the conclusion that six days in the sun light will destroy the bacillus. Fresh air, without the sun's rays, will destroy it in twenty-eight days, and it dies under a temperature of eighty degrees centigrade. It lurks in the dust and darkness and for this reason it is difficult to cure a person afflicted by it who may live under such unfavorable conditions. The affected one who lives in the open air, and who continually fills the lung spaces with fresh air, who seeks the sunshine rather than the shade, will be materially benefited by such mode of life.

Hippocrates in the fifth century B. C., contended that the disease could be cured if taken in hand early. Pliny, in the first century A. D., recommended the pine forests for the trouble; and Galen in the second century A. D., recommended high elevations and a dry climate as aids in curing the disease. The foregoing facts about the bacillus tuberculosis are the results of the best and most careful research on the matter.

It seems to me that the mind of the average medical practitioner has become enjured or overawed by the name of "Bacillus Tuberculosis," producing a somewhat similar effect in him to that produced in a subject of an empire or monarchy when the name "Kaiser" or "Czar" is pronounced.

They do not inquire or question the personality and individuality the name represents, or its immediate environment.

That from a physical standpoint the physical organization is a highly sensitized, perfectly adjusted, self-repairing machine, is apparent to every intelligent human being, and therefore must physical life be a chemical action of resolution. For instance, cut your finger, and if your blood and tissues are normal and sound, your wounded finger will heal at once without any further assistance. But if your blood and tissue are not normal and in a healthy condition, you are given eliminatives, stimulants and tonics, such as lime, iron and bitter tonics, aseptics, etc., to raise the tension, and your wound will get well; for we there have built up and improved the chemical composition of the blood and tissues.

Tuesday, September 29, 1903.

Section 2. Dr. Vincent Y. Bowditch, president, and in the chair.

I listened to a symposium of essays on the clinical study of tuberculosis delivered by Dr. C. Theodore Williams, of London, England, Dr. Carrol E. Edson, of Denver, Colorado, and Dr. Lawrence F. Flick, of Philadelphia, Pennsylvania.

These essays were masterpieces from a scientific standpoint, but fell short on some points I intended to receive an answer, if possible. So I waited with great anxiety to see if some one of these great specialists assembled there would not dwell on those points which worried me, but I waited in vain. After the customary mutual admirations and felicitations from a few persons in an audience of many hundreds of delegates, and just before closing the discussion, I asked the chair for recognition; and after being invited by the President, Dr. Vincent Y. Bowditch, to the stage where a great crowd of dignitaries from foreign countries and this country as well, had their seats, I produced my credentials and was thereby identified, and given the floor by the presiding officer.

After congratulating the International Congress on Tuberculosis for the great good it had done so far, I complimented the gentlemen who read such able papers. I reminded them that they had said a great deal, however, about the early diagnosis and the different modes of treatment of tuberculosis, with which I concurred, but they also left something unsaid which I considered of vital importance.

I told the audience that I represented the greatest specialist in the Universe, the "humble bedside practitioner." And these humble

men of the South, and of Kentucky especially, and in the remote portions of this country, have not the opportunity of consulting the great specialists of the East and of Europe, but whose patients' lives were just as sweet to them as the lives of the people who live in Washington, New York, or London, and I asked them what message the International Congress on Tuberculosis had to send these humble men.

I asked them where they would draw the line of demarcation between the bacillus tuberculosis on the one hand, and the tubercle proper on the other? We all know that the tubercle is a small nodule (limph) of pigmy and giant cells, and of a very low order which cannot reproduce themselves, formed within the physical body, caused by a deficiency in the basic salts, either in quality or quantity or both, and this tubercle is the home and the nest of the bacillus tuberculosis, and without it the bacillus tuberculosis can never nest; therefore, tuberculosis must ever be primarily and *per se* due to a chemical deficiency in and of the physical organization.

Bartholow says: "As every germ needs a special soil for its growth, so the specific infective material of consumption must fall into a properly prepared organism to proceed to full development."

The inquiring mind asks the question: "Where does this little unclassified cell (we know not for certain if it is a plant, or primitive animal cell) this bacillus tuberculosis originally came from; under what peculiar chemical process and environment did it appear, and where has its origin and being? This pathological or pre-pathological soil must be looked into—the nest of the bacillus tuberculosis.

The law of evolution will help us out on this point. The physical organization at normal will produce its tissue cells, and they again will reproduce their own kind. But in the case of the tubercle the physical organization has previously fallen so low, due to a chemical deficiency in the blood and tissues as to be unable to bring the proper cell-reproduction up to the normal; this unequal tension bringing forth cells of a low texture and chemical composition (a new pathological or pre-pathological condition) which form into nodules and these nodules are called tubercles. These tubercles are a conglomeration of living pigmy and giant cells, which are not able to reproduce themselves, but since they are living cells, no matter of how feeble vitality, they attempt to reproduce themselves, and a reversal of the law of evolution takes place—a cell of a low order is produced. Why cannot this cell be the

bacillus tuberculosis? With the production of this nondescript cell called "bacillus tuberculosis," life of the tubercle is at an end, and a break down occurs and decay begins. *Procter hoc* seems to be the only scientific logic and not *post hoc*.

While following the process of digestion and absorption of a meal, we see a nondescript, milky mass pass through the lacteals and lymphatic ducts into the subelavian veins, and there observe it converted into living blood, living animal cells. We can assume that if living animal cells can be formed by such a wonderful alchemic process, that a reversal in the law of evolution at the distal end of the physical organization, the tissues, is permissible and logical.

Dr. C. Theodore Williams, of London, England, in concluding his essay before the International Congress on Tuberculosis at Washington, D. C., 1908, said: "My conviction, based on forty-two years' experience of various forms of treatment of consumptives is as follows: If a young man or woman has a tubercular lesion, limited to one or both apices, with tubercle bacilli in the sputum, and a consumptive history for some months, but is devoid of fever, though not of other symptoms, that patient, after six months' residence at a high altitude, under medical supervision and with proper conditions of good food and exercise, will, as a rule, return home with the disease arrested, i. e., his cough and expectoration will have ceased and no tubercle bacilli will be detected. All symptoms will have passed away, the ordinary standard of body weight will have been recovered, and all physical signs will have disappeared so completely, that it may be difficult to determine on which side of the chest they formerly existed. The respiratory sounds will be clear and good, and often times will we find that they have extended their limits, and to be audible lower down and higher up than in the normal chest. The circumference of the thorax at different levels increases two, three or three and a half inches, and the mobility of the chest wall is augmented. The patients return home in excellent health, and, as a rule, do not relapse."

"Cases of more extensive disease I would place under sanatorium treatment, either in an institution or at home, and I would always give them the benefit of good climate, and especially plenty of sunshine, as besides promoting the various chemical and physiological phenomena necessary to good health, sunshine raises the spirits and encourages an outdoor life. I am only dealing with the treatment of the early stages of pulmonary tuberculosis, and do not attempt to discuss

the climatic treatment of the more extensive and advanced cases."

Dr. Carroll E. Edson, of Denver, Colorado, treated on the same subject; but I will not quote from his paper thereby lengthening my article too much.

Your humble bedside practitioner, being recognized by the presiding chairman, Dr. Vincent Y. Bowditch a second time and invited upon the stage (and let me add that I was the only delegate who entered upon the discussion of the gentlemen's papers) I took advantage of the opportunity, advancing ideas along the following lines:

It is a law, accepted by all physicists that there is fifteen pounds of pressure to the square inch on the earth's lowest surface (level). This pressure is caused by the weight or gravity of the atmosphere, and presses down upon everything on the earth's surface. The investigating mind tries to draw a tangible lesson from this mathematical truth, and physical fact. The adult human body represents fifteen square feet, and figuring it out for yourselves, you will arrive at the enormous weight of 32,650 pounds pressing down upon every human adult body. Of course, reason tells us that there could not be any pressure at all if there were not a counter-pressure, or reaction. Now, this counter-pressure from within and throughout the sum total of all the cells of the human body, and the atmospheric pressure from without, constitutes what is termed tension of the human body. The atmospheric pressure at all times acts in a double manner upon the human organism: first, in a mechanical, and, second, in a chemical manner. The air being fluid, and lighter above than on the earth's lowest level, acts, also, in an elastic manner. With every breath, the air being a chemical substance, a gas, of well known molecular composition, acts also in a chemical manner, by exchanging molecular positions within the lungs, thereby causing great molecular and chemical changes in every cell and substance of the animal (human) body. Therefore, if a person has a lapse from the normal or an idiosyncrasy loses his strength and weight, and becomes anemic, due primarily to a chemical deficiency, loss of the basic salts in quality and quantity, either or both, this tension becomes unequal, unbalanced, causing thereby grave disturbances in the metabolism and physiologic economy of the physical organization. If a person threatened with these symptoms then goes to a higher altitude, two, three or five thousand feet, or higher—if that should be necessary—a ready readjustment in tension takes place, and metabolism, and cell-reorganization is re-established, and the phys-

ical organization will again become normal; but where altitudes are out of the question, the supply of basic salts, good food, perfect physical and mental rest, dry, sun-bathed air, and proper clothing, will soon work wonders in home treatment.

If the spontaneous and continued applause from the large audience of delegates assembled was any indication of the satisfaction derived from my discussion, then I have all the reason of being proud of my humble efforts. Personal felicitations of many physicians, especially from the South, were tendered me during the remainder of my stay at Washington.

In conclusion, I would say that there are recorded between six thousand and seven thousand deaths in the State of Kentucky alone during one year, and if we multiply this by five, we have over thirty thousand persons ill with tuberculosis at this time, and there is no telling how many more obscure cases exist.

This great loss of life, due to tuberculosis, is monstrous and abhorrent, and should not be, for more people die of tuberculosis than the fiercest war has yet destroyed in the same length of time; but in the prosecution of a war, special sums of money are levied to meet the expenses, and for the White Plague, which destroys our fellow beings in such an insidious manner, nothing is done by our legislative bodies. Therefore, if the brotherhood of man cannot assert itself spontaneously, and come to the succor of the ill brothers, then the state governments should and must arouse themselves and allow a sufficiency of money under the control of the State boards of health, and members of the different anti-tuberculosis leagues, and respective municipalities, to establish and carry on simple and ample tuberculosis sanatoria in every county in the State, if this be practicable, and every life saved will become a fixed asset, and a useful citizen to some such state; to the glory and honor of their respective commonwealths and Brotherhood of Man.

DISCUSSION.

Arthur T. McCormack, Bowling Green: It is difficult to conceive of any subject which may be brought before the profession of Kentucky or the people of the State which is of more importance than the anti-tuberculosis campaign. Necessarily it must be conducted and led primarily by physicians. Our education, our fitness for the work is thrust upon us and our own raising or rearing and training both in college and in our semi-public careers naturally tend toward the prevention of disease at the present time. It is extremely important in discussing this subject that we get a proper sense of proportion of the different burdens imposed

upon the profession and people. The relief of the sick and the treatment of those afflicted with tuberculosis in proper sanatoria are but one and the lesser of the two great problems according to those who are taking hold of this proposition. Mr. Gladstone well said that the greatest statesman is he who most fully conserves the public health, and in doing such work as is being done by the anti-tuberculosis association and done so well in Kentucky, it is important to remember, it seems to me, that in this campaign the whole field of preventive medicine is embraced and can be solved. One of the first and most essential elements in this matter is to pass a bill which will provide for a state tuberculosis sanatorium. It is not hoped, in the present state of popular education that such a sanatorium will take every case of tuberculosis in Kentucky immediately, nor is it hoped it will be able to relieve every case which it would take into its confines. But it is of importance that such a sanatorium be established as a model in order that many other such sanatoria may be built—at least one, and, in many cases more than one, in every county in Kentucky. This is of the utmost importance not only that the sick may be relieved, as in incipient tuberculosis, as has been so well described by Dr. Glahn, but that an opportunity be given them to get well, and be useful citizens to the community. It is much better for those afflicted with tuberculosis to be taken to sanatoria and confined there under appropriate treatment than to be treated at home, for in this way we can prevent them from infecting the members of their own families, from re-infecting themselves and from infecting other people. This is a problem which, if presented to the profession of Kentucky properly, will interest and enlist every physician. If we can get every member of the profession of the state interested in the establishment of sanatoria for the tuberculous, as far as public health is concerned, then each and every one will take an interest in this movement and do all in their power to educate the people. The doctor believes in education because he knows the value of it. If a man has had tuberculosis and has been to a sanatorium for treatment and recovers, when he leaves that institution he is very anxious to spread knowledge among his fellows who have not had the disease and they will be better informed and made cleaner thereby. In furtherance of that feature of the campaign it is very essential that broader fields of activity be given the effective local boards of health in every community in Kentucky. This work appeals to the members of the medical profession. When it is considered that the average income of the doctors of Kentucky is but little over eight hundred dollars a year and that out of that meagre sum doctors are ex-

pected by the public to do their duty whether the public do their duty or not in connection with semi-public and charitable work, and when it is considered that the physicians of the state are doing more charitable work every day and every night than all the churches and charitable associations not only in this commonwealth, but in every one that adjoins us, it seems to me it is time for the public to wake up and assist the profession in such support as will enable it to devote some of the brightest minds to the prevention of disease. In each county there should be a health officer who shall devote his entire time to active public health work, not going out and quarantining people who have scarlet fever, or in administering antitoxin to prevent diphtheria, but in lecturing to school children, lecturing to women's clubs, securing the co-operation of every intelligent humanity-loving person in the respective jurisdictions in the work of preventing not only tuberculosis or typhoid fever, but scarlet fever and every other preventable disease. As soon as the people understand that typhoid fever never occurs except as a result of negligence; as soon as they understand that tuberculosis never occurs except as the result of negligence, just so soon will there be an uprising which will wipe these diseases from the map. The results that have been accomplished so far are wonderful, and when we consider that one hundred years ago half of the people who died, died of small-pox and that almost every living human being had small-pox, from those in the poorest hut to those occupying the highest places in the world, and that practically every human being was pock-marked, it would have been considered chimerical to have said in any assembly one hundred years ago that the time would come and come soon when there would practically be no small-pox in existence among intelligent people. Now the time has come when we can say the same thing about tuberculosis, typhoid fever and other preventable diseases. The people want to learn. They want to know about these things. The educational work carried on by the Fayette, Mercer, Adair, Campbell-Kenton, and other medical societies in Kentucky is splendid, and if continued, it can only be a question of time when every intelligent individual in Kentucky will have the truth presented to him and as soon as it is presented to the people they will grasp it. The difficulty is not so much in getting laymen to appreciate the importance of this work as it is in getting the busy doctor to spend the necessary time and have the opportunity to spread the gospel. These are what we may call seed diseases. The people should be taught that it is impossible for a person to get tuberculosis in his system without getting the germs of the disease there first. If we can teach the average individual that,

then we can begin to educate the people generally not to spread the seeds of this and other diseases. If we could teach every layman to understand that it is impossible to have typhoid fever without getting the germs of that disease in their mouths and in their systems, except through the bowel contents or urine of some person who has had the disease, then typhoid fever would soon be nonexistent.

W. E. Senour, Bellevue: I want to congratulate the essayist on his most excellent paper. We all appreciate the great importance of this subject. I want to endorse what has been said concerning school inspection in reference to the spread and transmission of tuberculosis. The best index of the health of any community is the physical condition of the school children. The physician is best qualified to interpret that index, consequently there is nothing that will accomplish more than the proper inspection and medical examination of school children, not only with reference to tuberculosis, but with reference to many other defects which reduce the resisting power of these children to such an extent that tuberculosis may have an opportunity to do its work. I would earnestly urge upon every city in the State of Kentucky at the earliest possible moment the adoption of school inspection and medical examination of school children. You should not stop at the discovery of the conditions by physicians in these schools, but let this examination be followed by a visit of the nurse to the various homes, giving the members of the family instructions as to hygiene and sanitation and the best methods of caring for these children. In addition to that, there are teachers in our schools today who are contaminating thousands of children. Such examinations will discover these cases and they can be eliminated much to their own benefit and to the saving of many lives and much invalidism in this country. This school inspection is far-reaching. It teaches the public sanitation, and the children learn to be more cleanly at home. They learn to care for themselves better at home. The children of today will be the citizens of tomorrow. Therefore, it is our duty to most earnestly recommend an agency which is destined to accomplish so much in the solution of this great problem which destroys one-seventh of our entire population. It is time for us to wake up! It is time for us to advocate not only school inspection, but to do as the Campbell-Kenton society did, go into the councils, go into the boards of education and use your influence and your teaching ability in every way possible to educate the people to take care of the children of today. I hope that each and every physician here when they go home will take up this matter, not only with reference to tuberculosis, but it will also give them an opportunity to cor-

rect defects, which, as I said before, decrease the resisting power of the children and consequently gives the tubercle bacilli an opportunity to do their work.

John Rowan Morrison, Louisville: I have thoroughly enjoyed this paper and this is a movement in which we should be interested. We have the tubercle bacillus with us, and we know that it is liable to be with us for a long time. Dr. Glahn has made one pertinent point that the tubercle bacillus does not flourish in a healthy soil. Therefore, it is my opinion we should make the soil of all people as healthy as possible.

I thoroughly endorse what the gentlemen have said that we should use every method possible to stop the dissemination of the tubercle bacillus, but I would go farther back than that and I would try and teach people before they have contracted the disease how to live sane, sanitary, hygienic lives, and in order to do this we must go back to the food, to the care of the mouth, to the care of the intestine, and to keeping the system in such a condition that it will not be infected by this bacillus; that this bacillus will cause trouble when it is lodged in the system. We talk about sanitation, about hygiene, about food and all those things, but we are too liable to be general in our remarks. We do not go into specific details. We do not tell the people what they shall eat, and how they shall eat and how food shall be prepared. That is the most important subject. In going through the country I find that the diet of a great many people is faulty. While they have plenty of food and have the means to procure it, the food is poorly cooked. It is assembled in such a way that it is not good and numbers of these people have indigestion. They have rotten teeth. They gulp down their food, which is not normal as we know. From that they will have lessened vitality. These people do not sleep with the amount of air in their rooms that they should have. Several years ago in going down the Kentucky river where the air is excellent, a mountaineer allowed me and two other gentlemen to sleep in his house. He was very kind. He gave us one room. He took all his children into another room. We opened up our doors and windows and had a refreshing sleep. He came up early in the morning and asked us whether we were not afraid of taking cold. We said no we were not. He then told us that the night before he slept with a crack in his door and took cold. I looked in his room and I can assure you there was a smell like a woodpecker's nest. The doctor should know something about sanitation and hygiene and he should give a multiplicity of directions to his patients, to his clientele, to the people in his neighborhood as to how they shall use these things and by bringing up the general character of the

health of the people the tubercle bacillus is not so liable to gain a foothold and bring about tuberculosis.

W. W. Anderson, Newport: Let us practitioners in order to prevent the spread of tuberculosis look to the convalescent patient. A patient is so eager to get out from under the doctor's care after he is the subject of illness that if we let him alone and allow him to remain in a run-down condition it is a standing invitation to tuberculosis. How often have we seen tuberculosis supervene upon typhoid fever by an attack of influenza or an attack of pneumonia or something of that sort. Let us look to the convalescent and explain to the patient the risk he is running. If he runs a risk that is his affair. It is in the chronic run-down states of health in which we find our tuberculosis. Let us explain to those people the importance of keeping out of that condition of run-down health and force upon them the importance of air and sunlight. They do not have to pay taxes on those things and, therefore, they ought to have as much of them as possible. They are plentiful.

C. H. Todd, Owensboro: The paper is a most valuable contribution to the literature on tuberculosis for it brings out the fact, according to the law of evolution, that the bacillus tuberculosis is a natural product of the tubercle and not the cause of the tubercle. Hence, the tubercle bacillus is post hoc and not propter hoc in the causation of tuberculosis per se. After the production of this bacillus tuberculosis, a nondescript call, the tubercle breaks down, creating a salubrious soil for this bacillus to vegetate in, to the menace of the whole physical organization. This new point of view can only be arrived at by persistent and long clinical observation at the bedside, where the human body is always studied as a whole, a unit.

To my mind, too much importance has been given to laboratory reports to the disadvantage and misguidance of the bedside practitioner, for laboratory work only speaks of a part and not of the whole physical organization.

In having a correct understanding of the origin of the tubercle bacillus we can master and control the spread of tuberculosis and we can cure tuberculosis.

T. A. Frazer, Marion: Dr. Glahn has given us a most excellent paper. He has given us a contribution to a subject that I consider of more vital importance to Kentuckians, to Americans, to the citizens of the civilized world, than any question that is before us today. We have got to combat the spread of tuberculosis through education. Down in the little county of Crittenden I have been connected with the Board of Health for a number of years. I have been making a single-handed fight. I have met with the teachers of our institute,

with the schools all over the county and I have prepared and read papers before them. I have advocated the education of the laity and especially the children. It is very essential to get out into the rural districts and educate the old people and bring to bear upon them arguments sufficient to convince them that we should prevent tuberculosis. You may find it hard to do this, but I believe it can be done. I believe the common school is one of the very best avenues of education.

Before our county institute this summer I read a paper on preventive medicine and in it I advocated repeatedly—as Dr. McCormack will bear me out—that we should require an examination of the teachers of the State of Kentucky on preventive medicine before a certificate is issued to them. I want to say that the teachers of my county at their last institute meeting passed a resolution asking the legislature to enact a law requiring the teachers of the State of Kentucky to take an examination on preventive medicine.

Then another thing: I have advocated, and I believe I am right, the physical examination of each and every teacher in the State of Kentucky. We have in our county three tubercular patients who are today in our school rooms instructing children! Last year a teacher taught his school for about three-fourths of the term, had to quit, sent home and died of tuberculosis in three weeks!

Another thing of importance is that the Kentucky State Board of Health and the various health officers of the state and of our nation have been making a campaign against promiscuous spitting. We should not only educate people not to spit on our streets and pavements, our trains, our street-cars and our public buildings, but we should enforce laws that we have in the various towns in our state against spitting promiscuously and if we bring up a few citizens and make examples of them, it would do more to educate the public than all the signs posted in street-cars and on railroad trains.

W. F. Boggess, Louisville: There has been no more humanitarian movement ever started in the last decade or two than the humanitarianism which has been shown and taught by the anti-tuberculosis associations of our country, and while I regret very much I did not hear Dr. Glahn's paper in full, yet knowing the man as I do, and knowing his interest in this subject, in so far as the paper is concerned, it would leave nothing for me to add along scientific lines.

Now, in regard to the education of the people, the anti-tuberculosis association has educated them, first, that tuberculosis is contagious. Second, that a tuberculous patient is a danger to the community as well as a danger to his own household. It has taught some members

of the profession that heredity does not play a part in tuberculosis, as was formerly considered. We have got away from the idea that because none of our patients or ancestors had tuberculosis we are not going to have it. We are educating the people along that line. Unfortunately, we have not educated all physicians away from the old imaginative idea that it is necessary to have an hereditary influence for the development of tuberculosis.

In regard to the movement for the education of the people, it teaches them, first, that consumption is contagious. Second, it teaches them that heredity does not play any part in consumption. It is not whether your parents had consumption, but whether or not you in the house have been associated with a consumptive recently. Fourth, it teaches them to take care of themselves, and to do that, just as the other speakers have said, you must go back to early infancy, to the birth of the child. You have got to teach parents how to make healthy children; that the human race should be as much concerned about their own propagation as they are about the propagation of horses, cattle and sheep, and were this kept in mind, the picture that we shall see in future generations would be a different one from what we see today. So you must look after the child in the school-room. You must look after the child in the mother's arms; the young lady and the young man at college; the young men in business; the old men in business, and the old women in the performance of their household duties. It is only within the last two years that tuberculous patients have been isolated in our City Hospital in Louisville. Up to eighteen months ago I saw typhoid fever patients, pneumonia patients, grippe patients, and patients suffering from acute infections brought into the wards in which there were patients in the last stages of consumption. These patients get well of their acute trouble, and then probably go back to the hospital five months later with tuberculosis. In the last eighteen months they have been isolating tuberculous patients in the City Hospital wards. It is only in the last four years that the tuberculous school-teacher has been prohibited from teaching in our public schools. Three years ago I had a lady in the last stages of consumption, teaching in a room of sixty children, who would not air the room for fear of catching cold.

The question comes up as to sanatoria. The sanatorium does not offer for such a patient any more than you can give her in her home, provided you can get the absolute confidence and absolute control of the patient. The sanatorium, instead of being a specific treatment for tuberculosis, is simply an educator of the people, an educator of the doctor. It is a mat-

ter of education of the people, of the laity, and while they do control patients anywhere, yet we could get the same control of our patients, the same co-operation, the same compliance with our directions at the homes of these patients, we would have a very easy matter in handling most of these tuberculous patients.

George P. Sprague, Lexington: I would like to say a few words in reference to one part of this subject that has not been elucidated. There is a misconception as to the existing organizations in fighting tuberculosis in the State of Kentucky. There has been for several years an anti-tuberculosis association in Louisville, and one in Lexington. One was recently organized in Latonia, and still later organizations in Henderson and Frankfort. The Kentucky State Association for the study of tuberculosis was organized in Lexington with sixteen cities and towns represented. Many different committees were appointed, and the work is now being inaugurated throughout the state by this State Association.

The topic of the paper under discussion really seems to one who has been interested in the matter for some time to be more of an effort on the part of our profession to decrease the spread of tuberculosis than anything else. In the State Legislature of Kentucky four years ago the association in Lexington introduced a bill providing for state sanatoria for the tuberculous. This bill passed the senate and house. Not a single doctor in the state took any interest in that bill as a doctor. In the last session of the Legislature the same bill was re-introduced by the Lexington Association, passed both houses, and was vetoed finally by the Governor on the ground that unless we could appropriate some millions of dollars for the fight against tuberculosis in this state, there was no use in starting out with a few thousand dollars. Still again, there was representation from the Kentucky State Medical Society there, no effort made, although the Lexington Association for the study and prevention of tuberculosis had sent a circular letter to every county secretary of the medical societies of Kentucky, urging their co-operation. Still there was no action taken on the part of the medical profession at Frankfort in the fight against tuberculosis. It may be asked, what will our profession do? Our profession must realize that it has reached the day when the treatment of the individual patient is not our highest nor our best function. It must realize that if we will not do it ourselves, the public will force us before another generation to accept the higher function of being preventers of disease, and that the term "sanitarian" is even a higher one than that of "physician." In other words, we must realize that we must be the preventers of disease of all sorts. If we

take up as a profession the prevention of tuberculosis, we must in preventing it include all other diseases, include right living, and include better sanitation. We sometimes fail to realize how much tuberculosis we have in Kentucky. We are told that one in ten deaths from all causes is due to tuberculosis in the United States. In Louisville, it is said that 12 per cent. of all deaths are due to tuberculosis; in Covington, 13 per cent.; in Newport, nearly 14 per cent., and in Lexington, 17 per cent. In Lexington the percentage of negroes in the population is about 20 per cent. The percentage of deaths from tuberculosis among the negro element is 53, showing that the negro portion of our population is much more susceptible to the disease, and for that reason some of us have thought it does not concern the white population so much, but when you realize that you have colored cooks in your houses, there is great danger of tubercle bacilli being coughed into your food.

J. G. Carpenter, Standford: I enjoyed the paper of Dr. Glahn very much, and wish to thank him for his contribution. Primarily, tuberculosis is a local disease. It is an infection, and if you can prevent this infection you will not have tuberculosis to deal with. If we have a local tuberculosis and can remove it, there will not be any constitutional contamination. So prevention is everything. We should live well, keep up our opsonic index, increase our power of resistance, and in this way prevent tuberculosis. I believe if we are going to fight an enemy, the best thing to do is to get up close so that you can see the whites of his eyes and get him by the throat, and make a good fight. I would begin with the prophylaxis or prevention of the disease in the communion service. This promiscuous communion is contemptible, with all due respect to the good church people. I refuse to take communion until they had individual communion cups. In my own town I saw two patients, with tuberculosis, two with syphilis and two or three other patients from the surrounding country drink out of the same cup. We have a moral community and one of the best communities this side of Heaven. We are above Lexington and Louisville and so all the good people ought to come there to live. (Laughter.) So I think it is well to inaugurate a crusade against the communion service until we have individual communion cups, so that it will make it worth while for the rest of the people to attend communion service. We are advancing in the country much more rapidly than a great many of you think. We are not so ignorant out there as our city brethren think we are. We have our country school-houses. We are having graded schools all over the country, two or three in each county, and the doctors lecture to the children and to the teachers. The parents

of the children are almost too old to learn, but we have got to teach the parents through the children and teach the children through the teachers, and teach the teacher through the doctor, and it will not be a great while before we will go to the large cities and clean them up.

Richard B. Gilbert, Louisville: I agree with what Dr. Carpenter has just said with reference to the communion service and the use of the communion cup. I have no doubt that many diseases communicated in that way have been overlooked. I want to thank Dr. Glahn for having the audacity of appearing before the combined wisdom of the world at the International Congress on Tuberculosis, held in Washington last September, and for saying what he did at that time. He brought before that audience a subject that has been the question of all questions, namely, as to what more can be done to prevent the spread of this disease. I remember very well noticing in many papers that were read that the authors dwelt largely upon the bacteriology of the disease, climatology, etc., and also on sanitary matters. It would seem that he must have been the only general practitioner there who made this inquiry, and made it a point to have it brought out in the discussion. It is a question that comes right home to us, namely, what more can we do to decrease the spread of tuberculosis?

A great deal has been said about school sanitation, about sanatoria for the education of patients who already have tuberculosis and who, after they get well and return to their homes, educate the people. That is a good thing, and it is being largely done all over the country. Every county ought to have a **Board of Health** working along these lines. But I believe, however, the hope of the ultimate control of this dreaded disease lies in another line that has not been mentioned. When we remember what has been done by vaccination in the arrest, and almost extermination of the dreaded small-pox, which used to be a universal disease, and when we remember, furthermore, what Behring has done in the discovery of antitoxin as a curative and prophylactic or preventive of diphtheria, where the mortality used to be 95 per cent., and now is only about 10 per cent., or less, I believe along the line of serum therapy is where we will find the question asked by the doctor, of what more can be done, will be answered. I am not one of those who want to decry laboratory research, because there is where great measures have to be begun and carried out at great expense, and great labor, as well as with great skill. I believe it will come to us in the future that a serum will be evolved by which every individual or every child will be inoculated just as they are vaccinated now before entering the public schools, and in this way will

be our greatest hope regarding the question of prophylaxis of tuberculosis.

W. W. Richmond, Clinton: In every county in this state we have a teachers' institute, the meetings of which are held annually. Now, I believe if some one was delegated in every county to go before the teachers' institute and lecture to these teachers upon tuberculosis, and do it annually, and then have the doctors in each county during the year to go before the county schools and lecture to the pupils, a great deal could be accomplished in that way that could not otherwise be done. We know one thing, that whatever results we may expect, they must come through the coming generation. From the present grown-up generation we must not expect a great deal. When people have passed middle age they become set in their ways. The man whose grandfather drank water from the old family well thinks that same water is good enough for him, and he says, "I am going to drink it, too." People advanced in years are slow in adopting new ideas or what they call new-fangled things. They reason in this way that what their grandparents did not have or do, they should not have or do. I have had that experience in talking with them, so that it was impossible to accomplish very much. So I say, we must look to the coming generation for whatever success we may expect to reach in this field of work. I believe if we enter into this work in a practical way, if every doctor would return to his home with the determination of interesting the county schools, and of delivering lectures on this subject at least once a year, and get the minds of the children wrought up about it, and through the teachers educate them, we will finally reach the goal.

Josephus Martin, Cynthiana: I cannot help but think that the author of the paper in speaking of tubercle being the cause of the bacillus tuberculosis, we are much in the same position as was Hippocrates, who believed that tuberculosis was the result of hemorrhage. We know that Hippocrates had the cart before the horse. Tuberculosis has long been recognized as the result of the activities of the bacillus tuberculosis, and the explanation that has been given by Weigert, with which you are doubtless familiar, will stand for a long time. Just as the membrane which is found in the throat of a diphtheritic patient is caused by the Klebs-Loeffler bacillus, or a lesion in the intestine in typhoid fever is a result of the typhoid bacillus, so the tubercle bacillus is the cause of tuberculosis.

Another point is with reference to altitude. Those two points, I think, should be specially mentioned, although neither one of them was spoken of very much. The question of altitude is a very important and serious one in some

eases; but since only about 2 per cent. of the patients afflicted with tuberculosis are cured or greatly benefitted by a change of climate, it is very important for us to consider the question of how to care for these people at their homes. The sooner we realize that home is the place for the tuberculous patient, the sooner we will settle the question of climate and altitude. Of course, sanatoria, either for the public or private purposes, should not be forgotten. It is very important to educate the children with reference to this disease; also for the physician to make an early diagnosis, which will be the means of decreasing rapidly the spread of tuberculosis and in time we will eradicate the great White Plague.

J. S. Lock, Barbourville: I just want to cite a case. Only a little while ago I was called to see a young man who was dying of tuberculosis. There was a home-made rag carpet thrown on the floor. The mother was sleeping with this young man. I talked with the husband and told him that unless they were very careful there was danger of other members of the family contracting the disease, and dying from it. He laughed at me, but in less than a year, the good mother died of consumption.

There are a great many people outside of doctors who are interested in this work. The Rev. James B. Beckner conceived the idea of going into the mountains and trying to educate the people in this great work. He went to work, and prepared his lectures; he went to New York on a pilgrimage and fell in with a philanthropist who paid him a salary for going over the mountains of Kentucky and lecturing to the people on the prevention of tuberculosis. It was simply horrible to hear that man tell the conditions he found in the mountains of Kentucky in places where the air ought to be pure, and where people ought not to have tuberculosis. We need to get out among the people and educate them with regard to the dangers from the spread of tuberculosis. Among the poor people in these mountainous districts of the state there may be a mother who has tuberculosis, with eight or ten small children under her care, and no one else to look after them. They sleep with her. Four or five of the children sleep in one bed. I have such a case under my observation. The disease began with the little fellow, and I pointed out to the mother the importance of keeping the children away from her. It is a hard thing to do, but that is where the great good is going to come in the way of preventing tuberculosis.

Jacob Glahn, (closing): I have nothing to add to what I have already said in my paper. However, I want to thank all of those who took part in the discussion from the bottom of my heart.

THE DIAGNOSIS OF INCIPIENT TUBERCULOSIS.*

By O. W. RASH, OWENSBORO.

Following the classification adopted by the National Association for the Prevention and Study of Tuberculosis, the incipient stage is defined as that, in which there is a slight initial lesion in the form of infiltration limited to the apices, or a small portion of one lobe, in which there are slight or no constitutional symptoms, (particularly excluding gastric or intestinal symptoms and rapid loss of weight); in which there are no tuberculous complications; in which the expectoration is absent, or very small in amount; bacilli may or may not be present in the sputum, but are usually not found.

With this definition before us, the diagnosis of incipient tuberculosis is, to my mind, the most important single factor in solving the tuberculosis problem, for upon an early diagnosis depends the salvation of the unfortunate victim, and prophylaxis as regards his associates. The early diagnosis of tuberculosis, ordinarily, is not one of the difficult problems of medicine, nor one which requires the services of the skilled specialist. The ability of the physician to recognize incipient tuberculosis depends, first, upon his recognition of the almost universal prevalence of the disease, and the possibility of its existence in every patient whom he is called upon to treat, and second, upon his familiarity with the wonderful exact agents which science has placed at his disposal.

In order to diagnose tuberculosis at an early stage, we must constantly keep in mind the fact that it is the most prevalent disease which afflicts the human race; that it occurs in every community and almost or quite in every family; that every patient who comes into our offices is a possible host of this disease.

We should always exclude tuberculosis in arriving at a diagnosis, unless the patient's symptoms point unmistakably elsewhere. This is particularly true when the patient complains only of slight symptoms, such as malaise, loss of energy, slight fever, or a protracted "cold." In many of these cases careful questioning brings out the fact that there has been a slight loss of weight, loss of appetite, and possibly a scarcely noticeable cough, which is usually so slight that the majority of patients in whom tuberculosis is diagnosed, deny that they cough. The clinical thermometer shows a rise of temperature above normal, usually not exceeding

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one-half degree. This, to my mind, is one of the most significant symptoms of early tuberculosis. A slight rise of temperature for several afternoons always demands a thorough examination of the chest.

An examination of the chest at this time will probably reveal a small area over which the respiratory murmur is harsh or slightly roughened, or there may be a few small rales, or the only sign discoverable may be prolonged expiration or jerky inspiration. In my experience, these slight departures from normal are most frequently found from an inch to two inches below the middle of the clavicle, or in the supraspinous region. Marked dullness or bronchial breathing is not found in incipient cases, their presence indicating that the process has advanced beyond the incipient stage.

Efforts to obtain sputum for microscopic examination frequently prove futile. If sputum is obtained, bacilli may or may not be found. In a small proportion of cases we find the *Bacillus Tuberculosis* and our array of evidence is completed. In the remaining cases, however, we suspect from what we have discovered that our patient has tuberculosis, but positive proof is wanting.

It is in these cases that Koch's tuberculin, which, for twenty years, has alternately been reviled and praised, seems to be the agent which will enable us to make a positive diagnosis.

The use of this agent in diagnosing tuberculosis is not a complicated process, nor one fraught with danger, but it is one which any physician may easily and safely use.

It is used hypodermically as follows: The temperature of the patient is recorded for several days, and only those cases are submitted to the test in which the temperature does not exceed 99 1-2 F. It is best to take the temperature at least three times daily, say at 8 a. m., noon and 4 p. m.

The case being suitable, from one-half to two milligrams of old tuberculin is injected hypodermically into the back or thigh. This dosage being used for adults of good physique, weaker patients requiring smaller doses. If this is not followed within 36 hours by a rise of temperature, the dose is doubled two days later, and if a slight rise of temperature (1-2 degree) then occurs, the same dose is repeated when the temperature has reached normal. This frequently gives a stronger reaction than the previous dose, and when it occurs, it may be regarded as an infallible sign of the presence of tuberculosis, (Koch). If these doses do not give a reaction, ten milligrams may be used. When a pronounced reaction occurs, which may and frequently does with the initial dose, there

is a rise of temperature from one to three degrees, and the patient complains of headache, muscular pains, and malaise. However, a rise of temperature of one degree, without other constitutional symptoms, after a small dose, is diagnostic. Usually a few rales will develop in the affected area of the lung or the physical signs will be intensified, and some slight soreness will be experienced over the same area. Edema and tenderness at the site of injection usually develop as one of the positive signs.

The patient should be kept in bed until these symptoms subside, which will usually be in the course of 48 hours. Patients in whom there is no tuberculous process are not affected in any manner by this test. This test is especially valuable and desirable for adults.

Von Pirquet's test, which is used extensively for children, is used as follows: The skin of the forearm is scarified as for vaccination, care being taken to only open the lymph spaces and not to draw blood. The scarification is made at three points an inch or more apart. The end ones are inoculated with a 4% solution of old tuberculin (von Pirquet), or even with the old tuberculin undiluted, the middle abrasion being retained as a control. A small wisp of cotton is applied to the inoculated points to hold the tuberculin in contact with them, no other dressing being necessary. If the patient is the subject of tuberculosis, there appears within 48 hours, at the inoculated points, a small papule surrounded by a hyperaemic zone from one-half to one and one-half inches in diameter, or the papule may be wanting and only the inflammatory zone appear. There is some itching. Any hyperaemic zone developing within the first few hours is due to trauma and is not to be considered. The disappearance of this papule or inflammatory zone is often followed by a brownish discoloration of the site which may persist for some time. This reaction has various degrees of severity, but the severity of the reaction does not indicate the extent of the tuberculous process, but is determined rather by the strength of the tuberculin used and the sensitiveness of the patient's skin. This reaction is not attended by any general symptoms such as fever or malaise.

Detre modified the above in that he inoculates at three points using old tuberculin for one inoculation, bouillon filtrate of human tubercle bacilli for the second, and a filtrate of bovine bacilli for the third. He claims that his method differentiates between human and bovine infections, and also that it provides a means of controlling the thera-

peutic use of tuberculin. For in infections with the human bacillus, he uses for treatment the preparation which has given the least reaction, which he denominates the concomitant filtrate in contradistinction to the one which has reacted strongly, which he calls the dominant filtrate.

Moro's cutaneous test is employed as follows: An ointment is prepared containing equal parts of old tuberculin and anhydrous lanoline. About one-half gram of this is vigorously rubbed into the skin of the abdomen or breast for thirty seconds, over an area of two square inches. Moro divides the reaction into three stages or degrees: The weak reaction appears between 24 and 48 hours, as two to ten red nodules at the site of inoculation, the nodules being one to two millimeters in diameter. This eruption disappears after a few days and does not cause any itching or other irritation.

The medium reaction appears within 24 hours as 100 or more nodules about 3 millimeters in diameter. The surrounding skin is intensely red, and the reaction is accompanied by considerable itching. The nodules remain several days and then disappear.

The strong reaction appears within a few hours as 100 or more large red nodules or papules upon an inflammatory base. There is intense itching. Some of the papules may be as large as 6 millimeters in diameter. The reaction is not confined to the area of application, but extends into the surrounding areas. There usually remains a brownish discoloration, which may be present for several weeks. General symptoms as rise of temperature, etc., do not occur. The strong reaction seldom occurs, except in tuberculosis of the glands or bones. The sensitiveness of the skin must be considered in classifying the results of this test. This test is considered to be absolutely harmless. In using Calmette's ophthalmic test, a 1% solution of purified old tuberculin is used, one drop being instilled into the eye, the lids are held apart until the drop is distributed throughout the conjunctival sac. The earliest symptom of a reaction is a scratchy feeling appearing in from 3 to 12 hours. But it may be delayed for 24 hours. This is followed by secretion and redness of the inner canthus, caruncle, or lower lid, which may increase and affect the entire conjunctiva. In case a second application is desired the same eye should not be used, for the tuberculin sensitizes the eye so that it is more susceptible to the second test. Any inflammation of the eye or lids is a contraindication to this test.

It has recently been suggested by an Ital-

ian observer, Pollaci, that the application be made to the mucous membrane of the lower lip instead of to the eye, he having tried this method in thirty cases with very accurate results.

Any of the foregoing tests sometimes fail to react in advanced cases, but it is exactly in these cases that they are not needed. They do give positive results in early cases, and negative results are especially valuable, as they absolutely exclude any possibility of tuberculous infection. The positive reaction may be obtained where there are healed lesions. Just which test is most accurate has not yet been determined. Personally, I prefer the subcutaneous.

The various preparations used in making these tests may be obtained ready for use from any of the larger biological laboratories.

To recapitulate: The diagnosis of incipient tuberculosis is not difficult to the physician who realizes the prevalence of the disease, who observes the temperatures of his patients, who makes a thorough examination of the chest in all suspicious cases, and who uses the tuberculin test with care.

DANGERS OF ANIMAL TUBERCULOSIS TO THE PUBLIC HEALTH.*

By F. T. EISENMAN, LOUISVILLE.

Of all the diseases engaging the attention of the medical world, tuberculosis is the most dangerous, since it not only involves the human family, but as it is also one of the most prevalent diseases of the lower animals, humans are in continuous danger of infection from them. Tuberculosis, though confounded with syphilis, was recognized by the Jews during their Egyptian captivity. Again the Germans in 1370 enacted laws forbidding the consumption of flesh from tuberculous animals.

Vallemin demonstrated in 1865 that tuberculosis was due to a specific infection and produced the disease in rabbits by infecting them with tubercular lesions from human subjects. He produced tuberculosis in animals by compelling them to inhale tuberculous material. He also demonstrated that tuberculosis was infectious from one person to another. Chauveau, at about the same period also produced tuberculosis in cows, and his experiments, were confirmed by Klebs, Cohnheim and Gerlach.

These different experiments convinced the veterinarians that the danger of communicating tuberculosis from the lower animals to

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the human family was a much more serious menace to the health of the public than was realized. Unfortunately, the impression prevailed among the majority of physicians as well as the laymen that tuberculosis was a hereditary disease and not one of a contagious character. The specific organism of tuberculosis however, was not discovered until 1881, by the eminent bacteriologist, Robert Koch, who demonstrated that the bacillus could be found in the lesions of tuberculosis and pus from same; dust from houses, public conveyances, halls, etc.

There seems to be no difference in the human and the bovine tuberculosis that can be accounted for biologically, other than the modified conditions gained from its environment, so that after all the experiments that have been made, it is generally accepted that there is only one tuberculosis, one tubercle bacilli, with many variations according to its method of culture, whether it is grown in an artificial medium or in the animal organism; but aside from these variations the bacilli is always the same, and if given suitable conditions will revert to its original form.

At the time that Koch discovered the bacilli of tuberculosis he announced to the world that he considered the affection in man and cattle as identical and this statement was accepted by scientists all over the world, and in 1901 he contradicted his former statement by announcing at the British Congress of Tuberculosis that bovine tuberculosis and human tuberculosis were independent diseases. This statement was gladly accepted by some of the profession and by the majority of the milk men, who are constantly opposing any measure which tends to restrict them in their business by prohibiting them from disposing of tubercular products and yet at the same time they are forgetful that tuberculosis among their herds is dangerous to the cattle, aside from the dairy products being a menace to the human family.

The scientists were much surprised at the second statement of Dr. Koch and they realized that it was radical and based upon incomplete and unsatisfactory evidence. Several government commissions in different countries were appointed to determine as to whether or not Koch's proposition was tenable and the results of their conclusions were so uniform that it is now generally accepted that bovine tuberculosis is contagious to the human family, especially among children.

Prof. Von Behring stated before the International Congress held in Paris, that one of the most useful results of the Congress, was the acceptance of the fact by all delegates that Bovine Tuberculosis is transmis-

sible to human beings, the bovine bacillus being more dangerous even than the human bacillus. The Royal Commission on human and animal tuberculosis appointed by the British Parliament to make a thorough and exhaustive investigation of this subject has made two partial reports of the work done under its direction. The following statement has been made by them: There can be no doubt that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacilli of bovine tuberculosis; and there can be no doubt that in the majority at least of these cases, the bacilli are introduced through cow's milk." Von Behring holds that many cases of tuberculosis in adults is the result of intestinal origin and that the primary infection occurred through the intestinal tract without leaving any lesions of the bowel by drinking tuberculous milk during infancy and having remained latent until adult life.

Ravenel, who has and is now, devoting a considerable portion of his time in demonstrating that bovine tuberculosis is infectious to the human, announces that the infection does not take place through the intestinal tract without leaving any lesions in the abdominal cavity and finds its way into the lungs or thoracic glands and he positively concludes that because there is no intestinal lesions in children when there is pulmonary tuberculosis, it is no indication that the disease was not transmitted by the food. He states that of five cases of tuberculosis examined in children, two were infected from cattle.

When we find a bovine type of tubercular bacilli in human lesions, it does appear that the proof is positive and we should readily conclude that the cattle are responsible for at least a portion of the original infection. When the German Commission on Tuberculosis examined 50 different cultures of tubercle bacilli from human lesions and found six which were more virulent than is usual for human tubercle bacilli, and when they were injected into cattle causing decided lesions of tuberculosis in the cattle, it appears that we must conclude that the infection is of a bovine origin. The 56 different cultures referred to with the exception of a single group were taken from tubercular ulcers, in the intestines, the mesentery glands, and lungs from children under seven years of age.

The British Royal Commission on Tuberculosis reports that 60 cases of the disease of the human were investigated and of this number 14 cases were claimed by the Com-

mission to have their origin from bovine infection. The biochemic division of the B. A. I. made an investigation of nine cases of infantile tuberculosis and separated two cultures of tubercle bacilli which they were unable to differentiate from bovine cultures. A very striking case defining the ease by which the tubercle bacilli are eliminated by the cow's udder was illustrated by an experiment conducted by the Royal British Commission, showing that when a cow was injected with human tubercle bacilli under the skin of shoulder she began excreting tubercle bacilli from the mammary gland in eleven days and continued to do so until its death from generalized tuberculosis 30 days following the inoculation.

It must be remembered that the tubercular organism takes on a form differing with its environment, consequently the tendency in human infection is to the human type of tuberculosis and so many autopsies may show a human type that were of bovine origin.

Granting that the cow and her milk is the most prolific source of tubercular infection we will now give some attention to the extent of the disease among the dairy herds. It has been variously estimated by the B. A. I. that herds in the different parts of the United States are infected to the extent of from 10 per cent to 90 per cent. In the District of Columbia the subject of eliminating the tubercular cow and her products has been given marked attention and as a result of the crusade 1,538 cattle in 104 herds supplying milk to Washington, 260 or 16.9-10 per cent., were found tuberculous.

The unsuspected tubercular cow is a very serious menace to the public health, her true condition is seldom determined until the tuberculin test is applied. It is then that we often find that cows considered to be in the best of health and under the most prosperous conditions, react to the extent of from 5 per cent. to 60 per cent. Within the last few days a herd consisting of 90 cows when tested with tuberculin was found to contain 54 diseased cows and 8 suspicious ones.

On December 15, 1908, the Jefferson County Fiscal Court anxious to determine accurately to what extent milk coming into this city was infected with tuberculosis, very generously appropriated \$1,200 for the purpose of carrying on the test by guinea pig inoculation. The partial report of this investigation disclosed the fact that of 119 samples of milk taken from 53 dairies of various counties, 39 1-10 per cent. were proven to be tuberculous. The announcement of this result caused considerable alarm, but as the test was conducted by Dr. Cyrus W. Field, pathologist and bacteriologist of the Uni-

versity of Louisville, an eminent authority upon the subject, the accuracy of the test was never doubted. Dr. Harvey Barrett deserves much credit as he rendered very valuable service in assisting Dr. Field in this work.

When the attention of the State Board of Health was called to the dangerous character of the city's milk supply, they issued a proclamation on July 6th last, making it compulsory for all cows in the state to show negative reaction to tuberculin before the milk can be sold.

A little over three years ago the Jefferson County Medical Society realizing the need of a milk upon which the members could depend in their practice appointed a milk commission, and now in Louisville, milk whose qualities are certified to by the Milk Commission of the Jefferson County Medical Society may be had.

While it may be unnecessary for me to give the requirements it would be foolish for me to add that the first requisite of this milk is that it should come from cows that have shown a negative reaction within a year previous to the sale of the milk. While it is true that certified milk has met with quite a good sale, yet it is also true that many members of the profession in Louisville are as yet so indifferent to the safety of their patients and families as to not use either in their homes or in their practice, certified milk.

While it may be unnecessary for me to give the requirements of the Commission, yet let me say that they require a low bacterial content and freedom from pathogenic organisms. This, of course, necessitates the requirement that every cow shall be tested before entering a certified herd and once a year thereafter. The dairymen producing certified milk have killed forty-odd cows, that they have purchased for additions to their herds and which had reacted to the test. These dairymen are experienced and felt that they could without fail select cows free from disease. The efficiency of the test is proven in facts that no cow has reacted on her second or third test.

Recently samples of the certified milk were injected in a large number of guinea pigs without one of them showing tubercular infection.

In Louisville of the large number of general hospitals and infirmaries, one only, uses milk from tested herds and it is undoubtedly true that many patients are infected from tubercular milk when trusting themselves to the care of a hospital. Aside from this, the Association Sanitarium for the treatment of tuberculosis, does not use any dairy products

except that they come from herds proven free from tuberculosis. Millions of dollars are now being spent for the cure of tuberculosis, and yet the positively known greatest source of human tuberculosis, the tubercular dairy cow, is being continually ignored and new cases of tuberculosis are constantly being infected, that many more millions of dollars may be spent in their attempted cure.

The time is coming when the public will demand of the profession and the health authorities the suppression of tubercular milk. It is to be hoped that this time will soon come and that prior to it, all the members of the profession including the health authorities will be awakened to their responsibilities in the matter.

DISCUSSION.

T. A. Frazer, Marion: I would like to ask Dr. Eisenman about how long a cow will continue to be apparently healthy and retain its flesh after it has contracted tuberculosis.

F. T. Eisenman: That has been given a good deal of investigation. There is a case on record where one cow has been known to be tuberculous for six years and yet she had a healthy appearance until a month before she died. Her products were infectious. The butter was infectious. I mean by that when injected into guinea pigs, the butter having been 133 days in cold-storage solution, infected guinea pigs.

T. A. Frazer: Is there any special age when a cow is more susceptible to tuberculosis.

F. T. Eisenman: Yes. The age of from six to eight months. I notice that von Behring will not inject any cow with bovine vaccine unless the tuberculin test has been applied. He considers that age most susceptible.

J. G. Carpenter: How long does it take to get a reaction in a cow after injection?

F. T. Eisenman: Six or eight or ten hours, and it continues right along.

J. G. Carpenter: Where do you usually give the injection?

F. T. Eisenman: Under the neck or shoulder.

A Member: Have you ever used the ophthalmic test in these cows?

F. T. Eisenman: My experience along this line has been very limited, but the last herd I mentioned of the fourteen or fifteen reacting to the test applied, twelve of them were less than six months of age and there was no eye reaction. The injections were decidedly positive. There was no chance of getting away from it.

J. G. Carpenter: How often do you resort to the inoculation test?

F. T. Eisenman: The cows ought to be tested once a year. I do not think it is safe without testing them once a year.

Curran Pope: Does not the temperature of the cow vary considerably? Do you not have to

test them once or twice in order to reach a normal temperature?

F. T. Eisenman: It is surprising to observe the variation in temperature. The temperature varies sometimes two degrees and during hot weather we find cows with a temperature of 106 to 107 degrees, without any apparent cause for it. The next day when you go back you will find the temperature has gone down to normal, so that it is necessary to take at least three temperatures before getting an average.

Curran Pope: What do you consider a reactionary temperature?

F. T. Eisenman: Two degrees.

A Member: What are the most prominent symptoms after the injection, so that you can draw a conclusion as to a cow being tuberculous?

F. T. Eisenman: A gradual rising of temperature. Sometimes you will get a painful swelling at the point of injection. If the cow has chronic tuberculosis you may not get a rising temperature. You are liable, however, to get a swelling at the point of injection and very often a profuse dysentery. A great many cows have tuberculosis of the bowels and no other part of the body.

A Member: Which cows are more susceptible and which are less susceptible to tuberculosis?

F. T. Eisenman: That question cannot be answered with any degree of accuracy. After injecting a herd you will find it at all times, yet many people think Jersey cows are more susceptible to tuberculosis than others, but I do not know whether that is correct or not.

J. G. Carpenter: How about the circulation and respiration in these cases?

F. T. Eisenman: Respiration is labored and the circulation is disturbed a good deal.

J. G. Carpenter: Does the animal want to lie down to rest?

F. T. Eisenman: Not as a rule. They stay on their feet.

J. G. Carpenter: What do these cows show on autopsy?

F. T. Eisenman: Following the tuberculin test ninety-seven per cent. of them show disease after injection and that conclusion has been reached after about ten thousand post-mortem examinations have been made.

A Member: You say ninety-seven per cent. show disease post-mortem?

F. T. Eisenman: Yes, sir, and there is no question about the accuracy of it.

Carl Weidner, Louisville: As to the paper of Dr. Rash concerning the diagnosis of incipient tuberculosis, while we have a number of new tests, I wish to put myself on record as saying that we still have to consider those important means at our command which we have known for a long time and occasionally make use of

the new methods which have been added to them. I refer to these methods of general and physical examination of patients. With all the methods that have been given us in later years, beginning with old tuberculin in 1900, we have physical means of examination which will enable us in most instances to make an early diagnosis of tuberculosis. It requires training and extreme care to do so, but in most instances you will succeed without the other means and I think you ought to reserve the other means, the so-called tuberculin tests, for those cases in which you are in doubt. I have not time to discuss these physical means of examination and as they have been taught to you it is hardly necessary for me to do so. Dr. Rash omitted to refer to a slight rise in the temperature after exercise, also to the frequent rise in temperature in the tuberculous woman during menstruation. There may or may not be expectoration. It is true we do not have expectoration to guide us in the early part of the diagnosis of tuberculosis. The patient may not cough very much. He does not spit tubercle bacilli. The tubercle bacilli appear when there is a broken down nodule. I have gone through the wards of our hospitals and have asked a patient for six weeks to give me some of his sputum and he would say to me, "I do not spit." But accidentally seeing him spit up and examining his sputum, it was found to be full of tubercle bacilli. In addition to thorough physical and general examination I would like to add examination of the sputum. Tubercle bacilli may be found early in some cases of tuberculosis. Some experts contend that the presence of a large number of lymphocytes in the exudates is also an aid in the diagnosis, or at least is suspicious of tuberculosis. That has been brought out by Wolff-Eisner particularly. We have recently added to our means of diagnosis a blood examination, which, if true, will in many instances aid us very materially in making a diagnosis. It looks plausible that if we have an infection, a certain germ at one time or another must have lived in the blood; it must be found in the living circulation and as you know in his experiments, Rosenberger by his special method, found tubercle bacilli in every instance in the living circulation. If that is true, it is an important means of diagnosis and of distinguishing this disease from malaria, typhoid and other bacillary forms of disease.

Curran Pope, Louisville: Every one of us, no matter what specialty he may practice, has with him this question of tuberculosis, not occasionally but all the time. I think any man who has seen the exhibit in the corner of this hall, or has seen some of the dairies that surround our large cities will probably come to the conclusion that he does not care whether it is scientifically true or not that bovine tu-

berculosis may or may not be transmitted to the human, but he would sicken at the sight of the dirty, uncleanly surroundings that must of necessity contaminate the product and in that way carry disease to the human being. If for nothing else than as a matter of precaution, the modern work that is being done along this line is a great safeguard to the individual.

Dr. Rash, in his paper, did not mention the great value of the radiogram in the early stages of tuberculosis as a diagnostic agent. The mottling of the lung is one of the most certain diagnostic agents we have.

I want to say one thing for Dr. Eisenman, that this society should not only learn, but be made to understand all he has stood for in this community. He has performed a work that I am sure the entire medical profession of this city and state will appreciate. He has been courageous, fearless and faithful in the discharge of his duties. I want to go farther and say that he has given credit where credit is due and I think this society should put itself upon record by passing a resolution thanking our Fiscal Court for the liberal expenditure of money that it has been granted and the expense to which they have gone in making necessary tests along this line. Nothing stimulates so much the civic officer in his duty as the feeling that he has behind him the press, the State Board and the help of a united profession and I, therefore, suggest this resolution be passed, and that our Fiscal Court be praised for the good work it has done. (This resolution was seconded and carried.)

George P. Sprague, Lexington: There are two points which ought to be emphasized in this matter. The consideration of the tuberculous animal in Kentucky has been thwarted thus far by commercial interests that have appeared at Frankfort with a bill that has been up in the Legislature to curtail tuberculosis and we ought to know that the two reasons that have controlled the Legislature of Kentucky are no longer operative. We were controlled for years by the dictum of Koch, that tuberculosis of animals was not transmissible to man. Dr. Eisenman quoted Koch's latest statement made at Washington of how he had not made the statement which was credited to him. It was only after hours of discussion and extensive investigations made in this country and in Europe, presenting the facts to Koch, disproving his original dictum, that he admitted he never had denied the transmissibility of bovine tuberculosis to man. Koch apparently, with all his scientific attainments, with all we owe him, has become wedded to the idea to such an extent that he even tries to avoid passing upon facts.

The other point I wish to make is that the dairymen have no longer a prop to stand upon

in a commercial way. Schroeder, of the Bureau of Animal Industry, has proven thoroughly by an exhaustive investigation based upon fifty-three million inspections of slaughtered animals by the Federal inspectors, that there is less loss to the dairymen and to the stockholders, when the tuberculin test is used and the animals reacting, condemned, than there is when tuberculosis is allowed to ravage their herds without the benefits occurring from the use of the tuberculin test.

A Member: Laboratory workers designate three types of bacilli: bovine, human and pulmonary. It is true the bovine type has been isolated from calcareous human nodes, but have been present in human organism from one to twenty years, and when released and put back in favorable environments show the characteristics of the bovine type. The great mass of tubercular infections in the human are pulmonary and there has never been an undisputed case of primary tuberculosis of the lung that has led to the bovine type. In this type of infection we see the disease early before it is far advanced and stimulated and changed by the human environment and still there has never been a typical case of the bovine type of tuberculosis that has caused a primary pulmonary infection.

O. W. Rash, (closing): My reason for not mentioning the Rosenberger method is because of the fact that many competent observers oppose it, for the reason that they have either failed to find the tubercle bacillus in the blood, or that they found a bacillus resembling the tubercle bacillus when they prepared their specimens with filtered or distilled water and did not find this bacillus when they did not use the filtered water.

With reference to Dr. Pope's remarks regarding the radiograph, I quite agree with him as to its value in diagnosing early cases, provided adequate laboratory facilities and a competent interpreter are available. But my advocacy of the use of tuberculin is based on the fact that it is positive and that it can be used by the doctor at the cross-roads as well as by the physician with every laboratory appliance at his command.

Personally, I use von Pirquet's method first, and follow all positive reactions by the subcutaneous method, which is undoubtedly the best. Regarding the physical signs present in incipient cases, I wish to say that they are very slight departures from normal, and that I think the majority of doctors have not acquired the educated ear necessary to their discovery. The educated ear must be acquired by extensive practice just as we acquire the *tactus eruditus* in the examining finger.

It is not my desire to emphasize any one thing in the early diagnosis of tuberculosis, but

rather the symptom-complex of fatigue and malaise, slight fever on exertion, slight loss in are always sufficient to justify the use of tuberculin, which will, positively determine the weight with diminished appetite, etc. These diagnosis.

Carl Weidner, Louisville: I would like to ask Dr. Eisenman whether injections of tuberculin, if frequently repeated, do not lose their effect. I believe it is a well-known fact that a tuberculous cow, if injected repeatedly with tuberculin, will cease to react and this fact may be made use of by unscrupulous dealers in cattle.

F. T. Eisenman, (closing): Unfortunately, that is true and the dairymen do make use of it. For that reason, tuberculin should not be sold except under government control. At any rate the commercial houses should not sell it. Its sale should be under the control of the government.

PERINEORRHAPY.*

BY LEO BLOCH, LOUISVILLE.

The perineum forms the floor of the pelvic outlet, and is made up of muscles arising from the bony structure of the pelvis and meeting in a central plane. The muscles, vessels and connective tissue of the perineum are so interwoven and placed that they form a strong structure, which is capable of great distension without a tear. The pelvic viscera are supported, and the equilibrium of the intra-abdominal pressure is maintained, by the intact perineum; therefore, when a laceration, which extends into the muscles, occurs during labor, many malpositions and functional disorders result if the perineum is allowed to remain unrepaired.

There are many instances when a laceration is an unavoidable accident; for example, (1), when there is a relative disproportion between the maternal and foetal structures, including cases of hydrocephalus. In the majority of these latter cases, Cesarean section should be resorted to. (2). When the labor is precipitate and the active, uncontrollable contractions cause the child to be born before the soft parts have been sufficiently dilated. (3) We have cases when, although much time has elapsed and the child is in the pelvic outlet, the tissues are so thick and inelastic that they refuse to stretch and a tear is inevitable. This accident usually happens to corpulent women who have been married late in life. With such patients the perineum is best taken care of by episiotomy; but, when this pro-

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cedure is necessary, it is wise to have a consultant. (4) Again, laceration is caused by necessary interference and an attempt to bring about early delivery, as in cases of breech presentation, placenta previa with hemorrhage, and convulsions; for, in these instances, we must sacrifice the maternal soft parts in order to save the life of the mother. (5) When it is impossible to control the patient or to induce her to take an anesthetic, either from systemic or whimsical reasons, a laceration will follow. (6) In the occipito-posterior position we usually expect a laceration because flexion cannot take place and the occiput tears its way through the deep perineal structures.

When you find that a laceration must inevitably occur, and because it is impossible to judge of its extent and direction, I advise episiotomy under aseptic precautions; for, in this operation, the extent of the incision can be determined and the perineal tonicity is preserved.

While it is quite true that, in the cases mentioned, laceration is unavoidable, there are many other cases in which it can be prevented. In order to prevent laceration, we must resort to means that bring about the relaxation and distensibility of the perineum, and that will also lessen the tension upon it. Slow and gradual delivery of the head will cause the perineum to relax and distend. This can be regulated by controlling the rate of descent with pressure from the hand, and administering chloroform to control the number and lessen the intensity of the pains. Head extension must be prevented by pressure in the direction of the os pubis, as you should not deliver the forehead until the occiput has been fully expelled and the neck rests under the sub-pubic arch. The left lateral position for the mother is to be preferred, for thus, relaxation is gained. Much time should elapse after the pelvic outlet is distended before delivery. A laceration is often prevented by delivering the head between pains. As much care should be exercised in the delivery of the shoulders as of the head, because laceration often takes place at this time.

Mechanical devices are to be condemned, because they are apt to produce trauma, both to the maternal parts and to the foetal head. Perineal strappings do not prevent lacerations, and the shelling-out of the child by introducing the finger into the rectum causes precipitate labor, and thus a laceration. All of these means are examples of bad, aseptic obstetrics.

When the delivery of the child is completed, a very careful examination for laceration must be made at once, because an un-

torn skin often hides lacerations of varying degree and extent—even complete ones through the sphincter ani. While conducting the examination, be sure to have a tampon in the vagina and a perfectly clean field, in order to see clearly the existing condition. The sense of touch alone should never be trusted; inspection under a good light is most necessary. If you find a laceration, determine the direction, degree and extent, and operate at once, unless the condition of the patient forbids.

Every physician who practices obstetrics should be prepared to give his patient immediate surgical aid at this time. All lacerations, regardless of degree, should be closed, because any raw surface, over which lochial discharges pass, expose your patient to infection. Remember that proper treatment at this time will save her from gynecological operation later.

We find two varieties of laceration; the incomplete, involving tissue outside the sphincter ani, and the complete, going through the sphincter ani muscle. Of the first, there may be superficial or deep. As I have mentioned above, the operation should be done at once, or within twenty-four hours after the injury, so as to avoid infection from the lochial discharge. There is no fixed method for operating, as each patient will probably have tears involving different structures and extending in different directions. If it happens to be a simple, lineal tear, extending into one sulcus, close the wound by introducing a long curved needle, threaded with ten-day chromic cat gut, or silk-worm gut, near the margin of the tear, and with a long, circular sweep go behind all retracted tissue down to the bottom of the wound, thence across to the other side, proceeding in like manner, and come out at a point opposite the initial entrance. Introduce a sufficient number of sutures to entirely close the wound.

If both sulci are involved, it is advisable to use a modified purse-string suture, starting from the skin surface of the tear and going through the vaginal sulcus, under the posterior vaginal wall and across to the other vaginal sulcus, making the point of exit opposite that of entrance. One or two sutures are usually necessary to cause proper approximation of the torn edges.

Since the varieties of laceration are so numerous, the ingenuity of the operator may often make the best of the situation.

In the complete laceration, the operation is concerned with the sphincter ani. The primary operation is often unsuccessful because the field of operation is infected by colon bacilli. The object is to bring together

the divided ends of the sphincter ani muscle with chromic catgut. Always suture the rectal and anal mucous membranes, if torn, with fine catgut. From now on the treatment is the same as for incomplete laceration.

All lacerations that have failed to heal with primary operations, on account of trauma or sepsis, or where there has been no operation performed, should be treated after the lapse of a year, by a secondary operation. The secondary operation is imperative, because a train of most distressing symptoms are either present or bound to follow, if the condition is not so relieved. These symptoms are not only painful and troublesome, but often cause much embarrassment to the sufferer, for, besides backache and a sensation of prolapse of the abdominal organs, they include inability to control the bowels and to empty the bladder, and many nervous disturbances.

In incomplete lacerations, with much gaping of the vagina, cystocele and rectocele, and much redundant tissue, the following operation, devised by Emmett and modified by Kelly, is advised.

After the patient is under the anesthetic and the parts are thoroughly cleansed, start the operation by grasping, with the tenacula forceps, the lowest caruncle myrtiliformes on either side of the vaginal outlet, for by so bringing the caruncles together you complete the ring as it was in its former untorn condition. While you hold these caruncles in place, seize a point on the posterior vaginal wall just underneath the approximated caruncles, and bring these three points together. The coincidence of these points will show what surfaces should be denuded and united upon themselves. A common suture should unite these three points. Only the mucous membrane should be denuded and great care must be taken in order not to perforate the rectum. Throughout the operation, all sutures should be buried to avoid sepsis, and the angles should be closed first. It is advisable to use chromic catgut.

Superficial, incomplete lacerations are treated very easily by a V-shaped area being denuded at the site of former fourchette, and closed by interrupted sutures. The flap splitting operation, without removal of tissue, is very popular and easily performed.

The Lawson Tait operation for complete lacerations is advised because the recto-vaginal septum is only a narrow, cicatrized margin, which, if denuded by the ordinary processes, would afford very little surface for the approximation of the tissues, and, by this method of making and closing the wound there is less chance of infection by rectal and

vaginal discharges. Make transverse incision from one side to the other between the rectal and vaginal layers of the septum, to the outer margin of the cicatricial area. Next, make a perpendicular incision, beginning at the umbilicated point indicating the location of the retracted ends of the sphincter ani muscle, and extending upward along the outer margin of the old tear to the upper angle. A similar incision is made on the other side. Dissection should be carried far enough to expose the sphincter ani muscle. Then suture the two ends of this muscle with chromicized catgut and bring the two upright lines of the "H" into approximation with the median line. You will then find that the original anatomical relations are restored. The separated rectal and vaginal layers are brought together by a few rows of continuous catgut sutures. If, after perineorrhaphy, a cystocele still exists, denude a circular area on the vesico-vaginal wall and close with interrupted sutures.

Remember, that there are no stereotyped operations for a lacerated perineum. Handle each case individually and simply strive to restore to its original state that which has been displaced.

Since an intact perineum is of such vital importance to the well-being of a woman, and since simple operations afford immediate relief, it is the imperative duty of the obstetrician and gynecologist to see that they are performed.

DISCUSSION.

J. G. Carpenter, Stanford: With reference to perineorrhaphy, it is not only of the utmost importance to the practitioner and profession, but particularly so to the patient. I believe that if primarily gynecology was practiced by the obstetrician, the abdominal surgeon would almost have to go out of business. The professors of obstetrics in the past taught students how to produce lacerations and not to repair them. The obstetrician of all men should know how to repair a lacerated cervix or perineum, and if he does not know how to repair a perineum he has no business to practice obstetrics. Meigs taught seventy-five years ago that the duty of the obstetrician was not done until he restored the woman to her former health. A woman with a lacerated perineum is not restored to her former health. In repairing these lacerations we should study the topography and geography of the case, so to speak, look at the field from the North, from the South and from the East and from the West, perpendicularly longitudinally, obliquely and transversely, so as to get a full view of the field. I recall very distinctly two patients I had some time ago in one of whom there was not only a tear through the perineum, but the recto-vaginal septum was

likewise torn. I was called in consultation in this case and put in twenty-six sutures. The wound healed in forty-eight hours with a good perineal body. In another case the cervix and perineum had a number of lacerations. The perineal body was completely ruptured and the mucosa of the vagina was ruptured extensively in various directions. I put twenty sutures in the vagina and the perineum was restored with six or eight sutures with complete union in forty-eight hours. If we do this work thoroughly and cleanly, applying muscle to muscle, tendon to tendon, mucosa to mucosa and skin to skin, we will have quick union. We should so insert the stitches as to have no dead spaces. After we have taken the stitches, before tying them, we should be certain to press out the blood clots, as these blood clots will produce dead spaces and we will have suppuration. If this surgery is done right, all of these patients should recover. I do not know of anything worse than all the subjective symptoms which follow in the wake of these lacerations.

O. W. Rash, Owensboro: I think when the baby is delivered the perineum should be exposed so as to see what we are doing, as it is much better to expose the woman to prevent laceration than to expose her and repair one. In this connection I wish to protest against the use of silkworm gut in repairing these tears or lacerations, as I think catgut is competent to hold the tissues and while it may be a better nidus for the growth of bacteria, the patient suffers so much after repair where silkworm gut is used that it is barbarous to employ it.

Richard B. Gilbert, Louisville: There is an old saying that "an ounce of prevention is worth a pound of cure," and in this matter of lacerations of the cervix and perineum an ounce of prevention is worth several pounds of cure. For several years it has been my object to try to find some means to avoid the occurrence of tears and I think I have achieved some little success in two or three ways. Let me mention one way. I have for the last ten years, wherever my advice was accepted, induced premature labor in a primipara with rigid perineum and narrow pelvis, and the induction of premature labor can be accomplished aseptically and absolutely safely for both mother and child. The child had better be born three weeks ahead of time with a perfectly normal labor than to be born at full term with the aid of forceps, lacerations, etc. In the last ten years I have delivered thirty-seven women prematurely by that method. My method is to pack the vagina with sterilized lamb's wool, saturated with pure glycerine, right up against the cervix, allowing it to remain there for six or eight hours, withdrawing it and repeating it the next day. I begin three or four weeks before full term is expected, and in one of these cases of narrow pel-

vis and rigid perineum, if the child is born three weeks ahead of time, the size of the head is such that the child is easily delivered. Women as a rule will not accept premature delivery, but in these thirty-seven cases I have not had a single occasion for any regret in having performed the operation to save the perineum from laceration.

Then another simple and efficient method of making the tissues relax is by the use of hot compresses. When the head gets down on the perineum the method is to saturate towels with hot water at a temperature of 120 degrees and apply these compresses firmly to the perineal floor. As soon as one compress is cooled, you apply another and keep it up until delivery is completed. The softening of the tissues thus causes relaxation and lessens very materially the danger of tear. It is sometimes effective in preventing a tear, in cases where a tear seemed to be inevitable. You delay the completion of the delivery as long as you can, allowing it to proceed as slowly as possible rather than have the patient end in violent exertion. I give these patients hypodermically morphine so as to lessen the amount of pain and retard delivery. By that method we can often deliver the child without a tear, but the induction of premature labor is the surest and safest method of avoiding tears and in primiparae or multiparae, who have had difficult labors, if you will once deliver them prematurely in that way, they will in all subsequent labors ask to be delivered in that way. I had one woman several years ago who had a deformed pelvis. She had a typical naegele pelvis with hip-joint disease from childhood, one side of the pelvis being imperfectly developed. In that woman, I induced labor at seven months. In the first case I delivered her according to the calendar at just six months and twenty-three days from the time of conception, which date was positively known by the party. The child was delivered alive and remained well thereafter. This woman has been delivered four times by that method without a single bad symptom. It would have been impossible to have delivered her of a live child under other circumstances. I would suggest hot applications as one of the best and surest methods of preventing lacerations.

I differ with the essayist in the matter of lifting the head out with the finger in the rectum, that is, when the head is in the normal occipito-anterior position. With the other positions you cannot manipulate the head so easily and so you have to do the best you can. In the matter of expelling the child when the head is down upon the perineum, you have gotten all the relaxation you can expect and the woman may be almost exhausted from the immediate effects of the labor, but when the tissues are fully relaxed under chloroform, you can introduce

your finger underneath the brow through the rectum, lift the head against the pubis and you can get over the perineum without a serious tear.

Lillian H. South, Bowling Green: I think it is exceedingly hazardous to interfere with pregnancy, just simply from the fact that you have a rigid perineum. These tears occur in the hands of the most expert obstetricians. Everybody has tears. Those practitioners who say that they do not have tears have not examined their patients and the doctor who tells me that he has never had a tear in his deliveries is a careless physician, because he has not given the patient the attention that she requires. It is very difficult to prevent laceration. The majority of women are lacerated during delivery and in my experience the only way, as Dr. Gilbert has said, to prevent a laceration is to delay labor, to allow the parts to have time to relax and the only way to do that is by anesthesia. Retard labor as much as possible and each time the head comes down the perineum will stretch, the muscles will expand and in that way you can protect the perineum. I would strongly condemn any manipulation through the rectum during delivery, as the danger of sepsis is too great and space is needed in that part of the anatomy for the head to pass through. You do not know what complications are going to arise and you may have to use the finger and you will not have time to sterilize it again.

Leo Bloch (closing): The use of an anesthetic like chloroform always applies to obstetric practice. I find in a great many instances these lacerations occur when the physician is present. Often times he may be in the other room washing his hands, when he ought to be with his patient—trying to prevent lacerations. If you wish to get relaxation at this time by placing the patient in the Walcher position, that is, dropping the feet to the floor, you will get the same results with less danger of infection than by manipulation per rectum. If you find a laceration, small or great, always repair it. Doctors are very timid about this. They like to tell patients that they have no lacerations. Often times the lying-in period is greatly prolonged by a small laceration that does not extend deeply into the muscular tissue, but which nevertheless, exposes the patient to infection. The repair of lacerations of the perineum is certainly a neglected field. A primary operation is often not done, and many of these patients go to clinics when these lacerations of the perineum are discovered and are usually found to be responsible for the troubles of these women. They say that their attending physicians said they did not have tears. So I say, as physicians we are too timid. I believe in being honest with our patients and when they have a laceration of the perineum we should tell them about it and

tell them we can repair it. We should give these lacerations immediate surgical attention and if this is done, we will find in future years that the secondary operations will be a thing of the past.

MANAGEMENT OF BURNS.*

By CHARLES C. GARR, LEXINGTON.

It is a well known fact that any disease or condition in the realm of medicine or surgery that is noted for its chronicity or difficulties in curing has nearly as many different remedies recommended as there are doctors.

As burns are in this class of difficultly healed conditions there are numerous remedies, applications, powders and lotions that are recommended to have some especial benefit.

It seems that every thing has been recommended from an inert powder to hot horse serum, so it will not fall within the domain of this paper to discuss all of the treatments of burns, but to give briefly a management of burns that has served me well.

We have two classifications of burns. First, that one honored by time, in regard to the depth, viz: First, second and third degrees. Second, a classification as to cause.

Burns produced by, (1) flame, (2) hot or molten metal, (3) steam, (4) electricity, (5) chemicals, (6) X-ray.

I shall not consider the latter three causes, but shall confine my remarks to burns caused by flame, hot metal and steam.

Burns by flame are usually of wide extent and present all three degrees of depth. There is usually more constitutional disturbance in flame burns than in the others.

Burns caused by molten metal are limited in extent, but characterized by great loss of tissue and followed by extensive sloughing.

In burns caused by steam a large surface is usually involved, but not deep unless the area is subjected to the steam for an unusually long time. I once treated a very severe and deep steam burn in an engineer whose locomotive had overturned and pinned him in his cab.

The treatment is systemic and local. In burns of great severity the local treatment is at first of minor import. There are two conditions to be met when a burn is first seen, viz: relieve the pain and combat the shock.

For the pain hypodermic injections of morphine should be given. A half grain should be given at the initial dose if in an adult, and quarter grains given sufficiently often afterward to relieve the patient of the

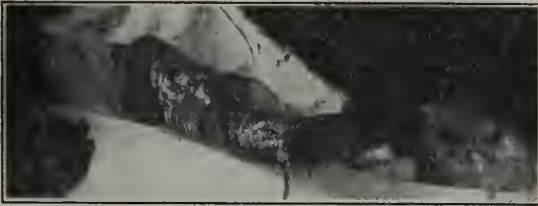
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torture that always accompanies these accidents.

This done, we must combat the shock. This is always present in varying degrees. It is worse in the aged than in the young or middle aged. I saw an elderly woman die of shock in two hours after a slight burn of limb and back. The patient should be put to bed and hot water bottles put to the feet and limbs or to the unburned areas, and kept warm by external heat. In severe shock 10-drop doses of adrenalin chloride (1-1000 Sol.) should be given hypodermically every three hours. If this does not suffice then hypodermoclysis, proctoclysis or intra-venous infusion of normal salt solution may be resorted to with benefit. By this means the extreme thirst is somewhat relieved. I do not favor the use of atropine as it increases this annoying thirst.

Dr. Walter Lanthrop has pointed out that alcohol is contraindicated as it produces vomiting, and that coffee is a better stimulant.

Not until the general condition of the patient will permit should we begin the local treatment. Too much tampering with the burned area will increase the shock. If the clothing has not been burned entirely off it



Burn of the left arm one week after first skin grafting and four weeks after the arm was burned. Olecranon process exposed. Entirely healed in 5½ months. Air dressing was used.

should be cut and no attempt should be made to remove the garments by unduly twisting the patient about in bed.

If the burn is of slight depth the blisters should be opened and the serum expressed after the area has been cleaned with an antiseptic, as boric acid solution, dilute carbolic solution or a solution of McClintock's iodide of mercury soap, which I believe meets the indication better. In opening the blisters, care should be taken not to remove any of the epidermis. Ten per cent. ichthyol ointment should then be applied on linen, with a layer of absorbent cotton and a bandage over this. This dressing should be re-applied every other day.

Burns of greater severity present a different aspect. Some parts are crisp or charred while other parts have the skin hanging in shreds and rolls while in another place will be blisters.

Some writers say that in the burned area

there are no pus producing germs as the cause of the burn has killed the germ and that attention should be given to cleansing the contiguous healthy skin. Others claim that the burned area should be thoroughly



Six weeks after first ; Three weeks after second operation

cleansed with antiseptics to prevent infection. I believe in deep burns it is impossible to prevent pus formation and that it will occur in spite of all aseptic precautions. In these cases a pitcher of boric acid solution or carbolic solution should be poured over the burn and then gauze soaked in carron oil is applied over which absorbent cotton and a bandage are put.

I am well aware that this remedy is now being replaced by more popular ones, but it

certainly meets the indication for which it is given. It relieves pain. The laity speak of it as taking the fire out. One writer has abandoned it on account of the "sloughing which invariably follows its use." I believe no more sloughing follows it than follows any other dressing, but it hastens sloughing and thereby saves us time.

I do not favor cutting the sloughs loose if there is any doubt whatever that living tissue remains. Parts sometimes look dead that afterward form an islet of skin in large area of granulations.

Picric acid in 1 to 5 per cent. solution seems to be the most popular of the more recent applications. It is said to relieve the pain when other measures fail. I have not had sufficient experience with it to either extol or condemn its healing properties. Dr. Lanthrop says, in *Therapeutic Gazette*, "for burns of moderate severity from gas, water, or powder, picric acid comes first of all. For deep burns picric acid for five days followed by vaseline on lint with iodiform or acetanilid."

Dr. J. C. Biddle writes, "in the treatment of more than three thousand cases of burns, I have tried all of the treatments suggested from time immemorial, including picric acid. My own treatment which I have been using for 23 years is composed of carbonate of lead one pound, powdered acacia, 6 ounces, and bicarbonate of soda, 3 drams with sufficient linseed oil to make a thick creamy paste." He applies this on lint and gets satisfactory results. He believes the acacia prevents any absorption of lead.

Carron oil has served me well and I use it up to the time that the slough has separated, then in extensive burns there is but one rational thing to promote speedy recovery, and that is skin grafting.

Care must be taken in burns of the fingers, axilla and like places to prevent webbing. Careful dressing will prevent this. In burns of the lower lip a horrible deformity results by contractions in deep burns unless grafting is employed.

By the appropriate use of splints and grafting burns in the neighborhood of joints can be treated without much contraction.

The operation that I have used with success is the modified Thiersch. The patient is anaesthetized, the area cleansed as well as possible with peroxide of hydrogen, and antiseptics, the surrounding skin being scrubbed with soap and water. We hear a great deal about having healthy granulations, which is, of course, necessary, but I believe the lack of success is often due to too much granulations. They should be scraped off with some non-cutting instrument, a scalpel

handle, or something similar. I have peeled them off one-half inch thick and when down to a healthy base, control the hemorrhage by hot water.

The grafts should be taken from the thigh or back, or location which has previously been prepared by scrubbing and shaving. With a sharp razor a very thin piece varying from the size of a dime to a quarter is cut and put on the prepared area. These grafts are placed about 1-4 to 1-2 inch apart. Fifty or sixty grafts can in this way be scattered over a burn.

Grafts seem to grow better if an air dressing is used. Nothing should come in contact with the grafted surface for 60 to 72 hours. A roll of gauze two or three inches high is placed on healthy skin all around the burn, and heavy pasteboard strips wrapped in sterile gauze is laid across for a covering. A bandage can be put on over this.

After 60 hours the dressing is taken off and the surface cleansed with boric acid solution or some mild antiseptic poured from a pitcher. An ointment of vaseline, 1 ounce and carbolic acid 6 gtt. is then applied on linen or lint or gauze, but the latter sticks badly and incorporates the granulations in its meshes. Absorbent cotton and a bandage complete the dressing, which should not be applied oftener than absolutely necessary. Every other day will usually be sufficient. I have been amazed at the rapidity with which these grafts grow in the presence of the vaseline ointment which does not seem to retard their growth at all.

Rubber tissue has been used to prevent the dressing from sticking, but it has the great disadvantage of damming the pus in and preventing its absorption by the dressings. The same can be said of silver foil.

The granulations between the grafts will grow more rapidly than the skin, hence they have to be burned down. For this lunar caustic is used.

The vaseline dressing should be continued until the entire surface is covered by the growing grafts.

In a case that I am treating now I've been greatly annoyed by the formation of small blisters where the skin had entirely healed over. These blisters would form pustules and then these in turn would leave a fresh spot of granulations. These spots of granulation are very sluggish and the only thing I've found to improve them is boric acid ointment U. S. P., after first painting them with 20 per cent. silver nitrate solution.

In conclusion, I wish to reiterate that whatever may be the preference as a dressing during the sloughing stage, there is only one speedy road to recovery and that is through

the grafting of skin, and that if the air dressing is employed, a better result will be obtained.

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DIAGNOSIS, PROGNOSIS, PATHOLOGY AND TREATMENT OF COMPOUND FRACTURES.*

BY J. G. CARPENTER, STANFORD.

A bear hunter said the safest way to get bears was to get in a tree and be prepared and wait for the bears to come his way; second to have an expert hunter with you to bag the game. The first thing of importance in the treatment of compound fractures is to join the Medical Defense League; the second is, be prepared to treat the case; the third, is to call early and quickly a wise and ethical surgical consultant, for from the mouths of two competent witnesses shall every word be established; the law and "Holy Writ" so declare. The testimony of two competent professional witnesses is accepted in court though a thousand or ten thousand laity try to controvert them. The treatment of fractures affords a prolific field for malpractice suits. The ambulance chasers, the pseudo-physician, and the shark lawyer are always ready, willing and anxious to prey upon the honorable, skillful and meritorious physician and surgeon. Malpractice suits are brought:

First, on account of ignorance or incompetency.

Second, neglect.

Third, experiment.

Therefore, be "*Semper Paratus*." If the attendant desires to quit the case, he must notify and give the patient sufficient time to procure another professional attendant. Experiments are done upon the lower animals and in the postmortem room. Ideal surgery is done in the postmortem room and not

upon the living. In surgery we strive to have ideal results and do the best we can for each individual case; and each case being a law unto itself. The age of the patient, the condition of health; the violence of the traumatism; the seat of injury; injuries done to adjacent organs, joints, muscles, arteries, veins and nerves and lymphatics and whether near or remote from the vital centres; the complications that follow and whether the wound be infected or not, will materially influence the treatment and final issue in the treatment of compound fractures. Very much depends upon whether the fractured bone is transverse, longitudinal or oblique, or whether the distal and proximal joints are involved, and whether the case is a simple compound fracture; or a compound comminuted fracture, or a compound complicated fracture, or the latter with infection of wound; with complications of a near joint; or injury to muscles, nerves, arteries and veins.

Complications that attend compound fractures:

Laceration of muscles or tendons.

Perforation or laceration of artery.

Perforation or laceration of vein.

Perforation or laceration of nerve.

Injury to lymphatics.

Separation of the fractured ends by fibrous tissue.

Excessive callus formation.

Diminished callus formation.

"The chief or sole histological factor in the reformation of new bone are the osteoblasts in the periosteum and medullary tissue. If these callus-forming agents are in excess in number and activity, or if they are defective in number and activity, or proliferating power, the physician certainly can not be blamed for faulty callus production."—Nicholas Senn. Excessive traumatic stimulation of the tissues by comminution of the bone and disturbance of the fragments are important agencies in excessive callus production.

Accurate coaptation of the fragments to their normal relative positions and immobilization at the seat of fracture with complete rest of the involved limb are best calculated to limit callus production to normal requirements.

Premature passive motion, imperfect reduction and defective immobilization are the three causes attributable to faulty treatment; that contribute to the formation of a massive callus and among these, premature passive motion is the most important. It seems to the essayist that the scientific committee on questions had designs on him, viz., to freeze him with an iceberg or have him melt the

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latter. When Dr. McCormack notified me, the fog-horn was loud and shrill, the temperature fell to the freezing point, the barometer went up. As the iceberg did not freeze me, I determined with the hot rays of truth and scientific treatment to melt the iceberg. Passive motion in fractures of the epiphyseal extremities of the long bones should invariably be postponed until the fragments have united with sufficient firmness to guard against disturbance of coaptation by the movements.

Premature passive motion is one of the recognized causes of non-union; but more frequently it impairs the functional result by being conducive to the formation of an excessive luxuriant callus which by its proximity to or involvement of important joints mechanically interfering with the restoration of the normal range of motion. The age, seat of fracture and extent of injury to soft tissues materially influence the formation of callus. Callus formation is more likely to be in excess of normal requirements during infancy, childhood and adolescence and extent of injury to soft tissues. At this time of life the osteoblasts are actively engaged in the development of the osseous system.

Callus formation is most plentiful on the side of the fracture where the soft tissues are most abundant, viz., the flexor sides of the bone. The greater the vascularity on the side of the bone most profusely supplied with soft tissue has in all probability more to do with massive callus formation than the amount of soft tissue.

Fractures in close proximity to joints give rise to profuse callus formation.

Fractures in the epiphyseal extremities of long bones are often fractures characterized by excessive injury to the bone and not infrequently complicated by involvement of the adjacent joint.

Conditions that give rise to great vascularity and its usual inevitable consequences, viz., hypernutrition and great activity of cell proliferation.

Defective callus formation is due to suppuration in compound fractures and in simple fractures made compound by infection occurring with or without direct operative interference. Suppuration may not only retard and arrest the formation of callus but prevent union by bony callus; interfering with the functional activity of the osteoblasts. When the infection and suppuration have been arrested, the wound made aseptic, the osteogenetic tissues resume their normal function and activity and finally unite the fracture by normal or exuberant callus. Scanty covering of soft parts has always

been regarded as a condition adverse to callus production.

Pseudo-arthritis is more likely to occur in that part of a limb where the soft tissues are scanty for which no physician should be blamed.

Perfect reduction, complete coaptation and permanent fixation are the indications that have to be fulfilled to the maximum extent to overcome the anatomic conditions adverse to satisfactory callus formation. Diastasis of the fragments as occurs in fractures of the patella and olecranon process and in non-impacted intra-articular fractures elsewhere produces excessive callus formation, and stiffness and ankylosis of joints. In fractures near joints and involving the joints, a guarded prognosis should be given as regards the function of the joint in the future. A change of direction of the articular surface, the result of malposition, excessive callus production, laceration of the ligaments, loss of points of muscles origin or insertion are conditions that impair the functional result.

Again, there may be a complication of dislocation with the fracture; partial or complete of one of the articular extremities, viz., the elbow joint, not infrequently overlooked and often not corrected. If ankylosis is inevitable the limb must be placed in the position most useful to the patient. In fractures involving the elbow joint the forearm is flexed at a right angle halfway between pronation and supination; in fractures of the hip joint the thigh is slightly flexed; this applies to fractures of the articular ends of the tibia and femur, in fractures involving the knee joint, when the leg should be slightly flexed. A stiff joint following a fracture may be due to an intra-articular extravasation of blood, so copious as to cause intra-articular hypertension and be a source of injury to the joint and excite an endo-arthritis with adhesions ending in stiffness or fibrous ankylosis.

A tendo-bursitis and adhesions of muscles or tendons to the callus or between themselves are common causes of stiffness and permanent injury. The formation of these adhesions following injuries to the soft parts; tears of the tendon sheaths; laceration of muscles and extravasation of blood cannot be prevented.

When the bone has united treatment of these adhesions should begin, viz., active and passive motion and systematic massage form the best course of treatment.

If tendons and muscles become imbedded in the callus, the functional disturbances from this cause will be permanent. Other complications of compound and simple frac-

tures are atrophy of limb, thrombosis and embolism. Thrombosis may be the result of the fracturing forces due to the displacement of the fragments with compression or laceration, or due to infection at the seat of compound fracture, the compression most often due to copious extravasation and diffuse oedematous swelling of the soft tissues.

Thrombosis-phlebitis; oedematous swelling of the limb points to venous obstruction of the principal vein of the limb; the axillary in the upper; the femoral vein in the lower limb. The swelling makes its appearance in from two to four weeks after the injury. Embolism from thrombosis in compound fracture occurred twenty times in the pulmonary artery or its branches; three times in the right side of the heart; from the pulmonary infarct, there results pneumonia and pulmonary gangrene.

Gangrene is a complication of compound fracture due to the co-existence of injury to the principal blood-vessels, arrest of circulation by pressure caused by a displaced fragment or faulty dressing.

"Localized gangrene of the skin may be caused by a faulty dressing, may extend by infection, becoming diffuse, eventually necessitating amputation as saving measure."—(Nicholas Senn.)

In compound fractures of the skull, the life and future welfare of the patient depend upon the prompt, rational diagnosis and skill, antiseptic surgical treatment, not only on account of injury to the bone, but also to the visceral intra-cranial tissues; a ruptured meningeal artery or a punctured or lacerated sinus may cause serious hemorrhage with compression of brain and death of patient in a few hours, unless thwarted by prompt, aggressive life-saving surgery, the first hour or during the first 12 or 24 hours. The second danger in compound fractures of the skull is infection from without followed by a meningitis, phlebitis, cerebritis and abscess, and should patient live, a partial or permanent impairment of mind, sight, hearing, taste and smell with hemiplegia and epilepsy. A punctured fracture of the skull is always a dangerous injury and of all fractures is most apt to be followed by infection and demands prompt surgical treatment with drainage and antiseptics. Should the life of patient be saved in compound fractures of the skull, the more remote sequellae aside from the fracture following intra-cranial lesions of the soft tissues, are vertigo, headache, impaired intellect or memory, epilepsy, paralysis of one or more nerve centres, muscles or groups of muscles and insanity, all of which should be

combated and avoided if possible by prompt heroic common sense, aseptic and antiseptic skillful surgery with free drainage at the right time and place. No injuries of the skull are too extensive to be despaired of and none too slight to be ignored. Wyeth speaks of ensheathing callus around the broken bone; intermediate callus between the fragments and pivotal or central callus within the medullary canal; solidification of callus occurs in from 15 to 30 days; more rapid in children and the adolescent; slower in the old and feeble. Callus, the pivotal and ensheathing is absorbed from 30 to 60 days; the intermediate is permanent. An aponeurosis, tendon, muscle, spicula of bone or foreign body between the fragments of bone may interfere with the formation of callus with failure of ossification.

Stalactites or exotosis of the broken bone may form at or near the origin and insertion of muscles, and stimulate an incomplete reduction of the broken bone weeks or months after the fracture has healed. The more pathology of broken bones the surgeon knows, the less he will misjudge the work of other surgeons. In the treatment of all fractures, be governed by the Golden Rule, in the treatment of the patient and in our own conduct to conferes.

A compound fracture consists of a fracture of any bone complicated by an injury of the soft tissues, which establish an avenue between the surface of the skin or any of the mucous membranes and the seat of fracture. A compound complicated fracture is one which is accompanied by an injury to any of the large blood vessels, nerve trunks, joints or organs. A compound comminuted fracture is one in which the bone is crushed or splintered into a number of fragments at the seat of fracture. A pathological fracture is a fracture occurring in a bone already diseased as in osteomyelitis, (fragility of the bone—*fragilitas ossium*) and mollities ossium—osteomalacia—a disease of adult life affects almost without exception only pregnant women and puerperal women—the softening and fragility of the bones in osteomalacia are caused by the substitution of osteoid material for normal bone tissue and abnormal proliferation of the medullary tissue with widening of the medullary spaces, processes that eventually remove the entire compacta, leaving the softened bone ensheathed by the periosteal envelope. In osteomalacia, Czerny found pain and tenderness at the seat of osteoporosis and described it as osteitis deformans. Volkman states in such cases the compacta over a limited extent is transformed into yielding spongiosa. A pathological fracture occurs also in tuber-

sculosis, rickets (rachitis), echinococcus cysts, malignant disease, carcinoma, sarcoma, encondroma cysts, locomotor ataxia and other chronic and inflammatory degenerations of the brain and spinal cord, syphilis and scorbutus. In paralysis or chronic disease of the bones or joints for years, the bones become eventually atrophied, fragile and osteoporotic. In the consideration of the pathology and treatment of compound fractures, the surgeon must keep his eye down the track and not forget bone atrophy, local and constitutional vices that have antedated the recent compound fracture. Bone atrophy is caused by the gradual disappearance of the organic constituents which increase its porosity, diminishes its resistance without diminishing the volume or size of the bones—an osteoporosis. An osteoporotic bone has diminished in the thickness of the compacta, rarefaction or partial or complete disappearance of the spongiosa, dilatation of the central medullary cavity, medullary spaces, which are filled with a yellow medullary tissue.

In all the inflammatory and degenerative affections of bone here described the bone and periosteum do not lose their regenerative capacity and union of the pseudo-fracture or pathological fracture by bony consolidation is not only possible but probable, but such a termination cannot be expected if the pathological fracture is caused by either a primary or a metastatic malignant tumor. A pathological fracture may be converted into a compound or a compound comminuted fracture.

When is a fractured bone healed? Erichsen states the callus gradually assimilates to old bone both in hardness and in structure, osseous corpuscles and vascular laminated cells being formed in it and it becomes smooth on the surface being invested by a cellulo-fibrous periosteum until by the end of six or eight months, ossification is perfect.

The last process in the consolidation of the fracture is the formation of new bone between the broken ends. In some cases the plastic matter does not become ossified but undergoes transformation into fibrous tissue and gives rise to a false joint.

Delayed union of bone indicates a slow process of repair. A pseudo-arthritis signifies an incapacity of the osseous tissues to repair the injury or the existence of mechanical difficulties that intercept the process of repair. Delayed union means a paucity of osteoblasts; a low degree of their capacity to proliferate or abnormal retardation of the conversion of the new material into bone.

Pseudo-arthritis presents itself pathologically into forms, viz.; 1. Ligamentous

union; 2. Interposition between the fragments of a new joint.

DIAGNOSIS OF COMPOUND FRACTURES.

There are the subjective symptoms of pain, tenderness, loss of function; deformity, increased mobility, muscular contraction, muscular rigidity, shortening, crepitation, inspection, palpation measurements, comparison with the same part of the body on the opposite side; sometimes the employment of akaido-perasty, confirm the diagnosis aside from the solution of continuity of the skin or mucosa, or both, with the broken bone. An abnormal swelling indicates displacement of the fragment or extravasation of blood, if it appears soon after the injury. Rapid increase of swelling, indicates hemorrhage. In compound fracture inspection and digital palpation enables one to easily make the diagnosis. "The displacement of the fragments for which the surgeon looks and upon which he relies largely in ascertaining the existence and location of a fracturing of any of the long bones, are lateral displacements; angular displacement, rotary displacement, over-riding, impaction and longitudinal displacement. Preternatural mobility, also a new point of motion and of great diagnostic value, the latter is the most important of the two. Preternatural mobility and alteration of bony landmarks are the two conditions that unerringly point to fracture near or extending into a joint, but they do not exclude the presence of a complicating dislocation.

FAT EMBOLISM.

A frequent complication of compound fracture, also compound comminuted fracture, and even simple comminuted fractures, is fat embolism, yet not a dangerous one, is sometimes a cause of death (sudden). Comminution of the bone and crushing of the medullary tissue favor the occurrence of fat embolism, and may give rise to grave forms which may suddenly destroy life or do so in a short time; crushing of the medullary tissue in fractures causes the presence of fluid fat which liberates free fat globules, the fat tissue involved or injured in the traumatism when crushed also furnishes free liquid fat. Fat embolism has occurred in extensive contusions of fat tissue when no fracture has been produced. In fractures the wide open lumina of the vessels of the medullary tissue predispose to fat embolism.

"The pressure caused by the displaced fragments and by the blood extravasation aided by aspiration of the open veins, is the principal active agent in forcing the liberated oil globules into the venous circulation. The torn veins are the main avenues for the entrance of free fat into the circulation although it may gain access indirectly by the

lymphatic channels. The oil globules are emulsified in the lymph glands to an extent which render them harmless in the general circulation."—Nicholas Senn.

The entrance of fat into the circulation occurs soon after the injury as the open veins are speedily blocked by coagulated blood. The oil globules that speedily find their way into the venous circulation are arrested chiefly in the pulmonary filter of capillary vessels. In the capillary vessels the oil globules become attached to the intima, coalesce and form large drops which completely fill the lumina of the smallest capillary vessels. In the capillary network are found between the emboli of fat capillary vessels filled with blood. The smallest part of the fat passes the pulmonary filter and reaches the various distant organs, particularly the kidneys, liver, spleen, brain, spinal cord, the digestive tract where it again blocks the capillary blood vessels. The embolic fat acts as an aseptic plug and does not cause inflammation, sepsis and pyaemia as was formerly asserted. The danger from fat embolism arises solely from the mechanical obstruction of blood vessels and the degree of danger is proportionate to the extent of the capillary obstruction. As the successive liberations and new embolic processes occur, the kidneys continue to eliminate fat periodically until finally all the fat that has not already been absorbed by the tissues, the seat of the different embolic processes is removed by this route. The appearance of fat in the urine after injuries is an indication of the existence of fat embolism.

In extensive fat embolism of the pulmonary capillaries difficulty in breathing and cyanosis and low temperature are the most prominent symptoms and in fatal cases death from asphyxia may occur suddenly, severe collapse in the greatest cases of fat embolism which differs from traumatic shock in that it does not make its appearance immediately but some time after the accident. In the fatal cases there is great palor of the skin and mucous membranes, loss of strength, apathy, diminished sensibility and at times convulsions and paralysis follow in succession, the paralysis finally involving the respiratory centres. The X-ray has proven a most valuable diagnostic measure in simple and compound fractures. It determines the existence and location of a fracture near joints, the presence or absence of complicating dislocations and in showing the position of fragments; the causes that interfere with their reposition and among them the interposition of soft tissues, and with the unscrupulous physician can be a prolific source for malpractice persecution.

PROGNOSIS.

In every case of simple or compound fracture, careful investigation should be made of the condition of the blood vessels and nerves, this is of the greatest importance to patient and medical attendant from a prognostic point of view. The main artery of the limb may be injured by the fracturing force, or the circulation injured, impaired or suspended by compression caused by displaced fragments, a condition that may result in gangrene for which the fracture must be blamed and not the treatment. The fracture injuries sometimes rupture the intima of the principal artery; an action which diminishes the blood supply and is followed in a short time by complete obliteration of the injured blood vessels by the formation of a thrombus. Daily local examinations should be made of limb to keep in touch and have a knowledge of the vascular supply that may endanger the life of the limb and patient. Large nerve trunks may be ruptured by the fracturing force or by displaced fragments lacerating, puncturing, or compressing or dividing the nerve trunk, a severe complication and one too often overlooked at the first and several subsequent visits. In every case test the sensation and motor contractility of the nerve trunk, that it do the patient good and medical attendant no harm and be of prognostic value later on in the treatment of the case. In the prognosis of compound fractures much depends on the amount of traumatism done to the soft tissues and the presence or absence of infection, the latter always adds seriously to the danger of saving life and limb. In crushing injuries, extensive loss of skin, crushing of muscles and tearing of any of the large vessels and nerves must be looked for and when present to any extent, an isolated or combined injuries will often furnish ample ground for amputation. A most thorough examination is necessary to determine the proper course to pursue. In extensive crushing injuries, important vessels and nerves are usually so seriously damaged as to prevent saving the limb. The time the injury was received and the early first aid treatment or delayed first aid treatment of the wound has a serious bearing on the prognosis. Delayed first aid treatment and especially after 24 or 48 hours increases the danger to infection greatly. Delays are always dangerous. Procrastination is too often the thief of time, limb and life in surgery. The presence of dirt and foreign substances in the wound increase the dangers to septic infection.

The question may arise, shall the surgeon through asepsis, anti-sepsis and conservatism try to save a mutilated limb and avoid pri-

mary amputation and run the risk of septicaemia and gangrene and finally a secondary amputation to save life, or, do the primary operation? The indications for primary amputation may be so self-evident that no time should be lost by anti-septic conservatism to save the limb. Anti-sepsis has greatly reduced the necessity for secondary amputations, but when septic wounds do not respond to anti-septic treatment and life endangered from profuse suppuration, complications increasing, the inflammation increasing in severity and gangrene appearing or present, a secondary amputation is urgently demanded. The age, habits and general condition, syphilis, intemperance, all modify the prognosis in such cases—each case being a law unto itself. Primary amputations should be restricted to cases in which the injury to the soft tissues has led to arrest of circulation and nutrition and their inevitable result—gangrene. Great loss of skin and crushing of muscles are well established and admitted legal indications for sacrificing the limb. If examination should reveal a wound of an artery of the size of the brachial or femoral, amputation is usually a justifiable procedure. If the accompanying vein is injured at the same time, the indications for immediate operation is most urgent. If the injury of vessels of this size can not be demonstrated by existing hemorrhage, inspection and digital exploration under strict antiseptic precautions become justifiable diagnostic procedures. The extent of vessel injury should be carefully ascertained by the condition of the peripheral circulation as indicated by the character of the pulse, by the temperature and by the color of the surface of the limb. If the intima of an artery of any considerable size has been torn by traction force, the peripheral pulse will be found smaller immediately after the injury and a bruit can be detected on auscultation over the injured part of the vessel, then complete obstruction of the vessel sets in from thrombus formation, thus interfering with a proper blood supply to the limb below the seat of fracture. The extent of nerve injury in the absence of visible or palpable injury must be estimated by ascertaining the degree of loss of innervation both of motion and sensation below the seat of fracture. In amputations, the surgeon must adapt the operation to the injured limb and not the injured limb to the operation, each case being a law unto itself.

The presence of gangrene following a compound fracture is always an indication for secondary amputation. Prolonged, exhausting suppuration continues to furnish a certain number of well selected cases for amputation. When laying open abscess cavities

from end to end, or by multiple incisions thorough curettment with free drainage, antiseptic irrigation, iodoform gauze tamponade and alcohol stimulation, have failed to save the limb and threaten life, a secondary amputation should be done.

Gun Shot Fractures. The sad history and high mortality of gun shot fractures in the civil war give us a lamentable narrative, the antiseptic treatment of the last 20 years or more, with the low mortality of three or five per cent. with aseptic healing of limb and restored function, encourages surgeons to press on to greater achievements.

The existence of gunshot fracture regardless of the extent of bone injury no longer furnishes a legitimate indication for primary amputation. The *wound should never be probed or interfered with*, but antiseptically dressed with an antiseptic powder of borosalicylate powder; boracic acid, 4 parts, salicylic acid 1 part and a compress of aseptic absorbent cotton, cotton is preferable to gauze, a better filter and with the powder and blood is soon converted into a dry crust which heals the wound hermetically and excludes from the wound pathogenic microbes, a roller bandage, or o. z., rubber adhesive plaster should be applied to hold the dressing in place. If infection does not occur the compound fracture is at once converted into a simple subcutaneous fracture and should be treated as such.

1. In the military hospitals of the Greek and Turkish war, the Spanish-American, in Cuba and Porto Rico, gun-shot fractures involving large joints proved to be amenable to conservative antiseptic treatment. Gun-shot wounds of the hip, knee, ankle, shoulder, elbow and wrist joints recovered without any operative interference whatever, in many cases a fair degree of good motion and good use of the limb rewarded the most conservative treatment.

In fractures of the extremities, long bones, rest, extension and counter extension immobilization with mechanical appliances will be the treatment in future. Should infection follow "the first aid dressing of the wound," the dressing must be removed, the wound enlarged, counter openings made and sufficient and efficient tubular drainage applied and thorough secondary disinfection with hot moist antiseptic dressing and hot antiseptic irrigation substituted with continuous immobilization of the limb and fracture.

Nicholas Senn states a determined strong protest must be made against the unnecessary removal of detached and partially detached fragments of bone, if the wound remains aseptic, loose fragments of bone will

not only retain their vitality, but will take an important part in the restoration of the continuity of the bone and add materially to the functional result. If the fracture is a comminuted one, all the loose fragments should be removed, disinfected in a carbolic acid solution and immersed in a warm saline solution ready for re-implantation after the wound has been infected and surgically cleaned.

The replaced fragments should be recovered by the periosteum if sufficient in quantity, otherwise by the soft vascular tissues and sutured in exact position to prevent displacement until the process of repair is complete. In compound fractures the wound under the skin is larger than the surface opening, the wound should be enlarged enough to give complete cleansing removal of all foreign substances, blood clots and fragments, and disinfection with an antiseptic solution and made surgically clean. In lacerated wounds, the torn margins should be cut away and attempt to make the wound an incised one, as near as possible; the deeper portions of the wound can be treated the same; if they are covered with torn parts that will interfere with primary healing, buried sutures should be used to diminish the size of the wound and space requiring drainage. Counter openings may be necessary for drainage, if the wound is irregular and dead spaces can not be avoided by buried sutures, enlarge wounds, multiple counter openings and fine-stranded rubber drainage tubes will be essential. The wound itself must never be completely closed by sutures as drainage will be necessary until all danger of infection has passed. The surgeon from day to day must give the most earnest and careful attention to after-treatment of a compound fracture and look for signs of infection.

Numerous authorities have also proven that completely detached fragments and portions of bone in aseptic environments kept in contact with vascular surroundings will live and take an active part in the subsequent process of repair, but that same can be transplanted to a distant part of the body, retain their vitality but also are vascularized and produce bone. The medullary tissue by auto-transplantation, will live and cause ossification through the osteoblasts.

A rise in temperature the first 24 hours is due usually to ferment intoxication, after this time it suggests septic infection; in fermentation fever the subjective symptoms are slight, the tongue being of more diagnostic importance than the pulse, and is moist and coated; in septicaemia, the tongue is dry, red, or brown. A high temperature

always excludes fat embolism as the only or principal source of danger—debridement. Volkman and Senn state debridement should be done when the wound has become infected, this process consists in opening or enlarging the flesh wound, and remove sutures, the loose infected fragments of bone and establish free tubular fenestrated drainage the right size, and the wound subjected to the most thorough disinfection. Should the peroxide of hydrogen, carbolic acid, or bichloride or mercury fail to arrest the infection, a continuous hot irrigation of saturated solution of acetate of aluminum or Thierch's solution, made of salicylic acid 3i ss boracic acid, 3iii to aqua 5xxxii, should this fail the wound must be thoroughly cleansed and dried, the suppurating surface freely exposed and swabbed with a 10 per cent. solution of chloride of zinc, after a few minutes the excess washed away with normal salt solution. The chloride of zinc solution penetrates the tissues deeper than any of the other antiseptic solutions and reaches the microbes some distance from the surface of the wound. Hot moist antiseptic compresses must be constantly applied with the free antiseptic irrigation. Should all of these local measures fail with concentrated nutritious diet, blood and nerve tonics and the free administration of alcoholics, a secondary amputation should be done.

The modern treatment of gunshot fractures and wounds in the treatment of compound and comminuted fractures consists in: No probing of the wound; no primary debridement; early first-aid surgical dressing; immobilization of the fracture, preferably by plaster splints; immobilization combined with extension if there is a tendency to undue shortening; first aid dressing must not be removed unless this becomes necessary by the appearance of local or general symptoms that indicate the existence of wound infection.

TREATMENT OF COMPOUND FRACTURES.

In the reduction of a fracture, pain, shock, muscular contraction and rigidity should be overcome by hypodermics of morphine and atrophine and if necessary, narcosis produced by ether or chloroform.

The psychological aspect of the patient should be administered to. The medical attendant should at every time, command and demand and have his rules and directions promptly carried out. In every fracture an ethical consultant should be called to help give necessary surgical treatment and bear responsibility and that every word, action and deed may be established according to "Law and Holy Writ." The local treatment of compound

fractures consists in the sterilization of the field of injury with hot water, razor, kitchen lye soap, like our grandmothers used to make, or ivory soap, spirits of turpentine like Dr. John Hunter, the great English surgeon used; bichloride of mercury solution, 1-1000 to 1-3000 carbolic acid and alcohol. The flesh wound should be likewise antisepticated; absolute cleansing of all soft tissues, of ends of fractured bones and fragments, foreign bodies removed; with thorough coaptation of the distal and proximal ends of the bone, fixation of same if demanded, with counter openings for complete drainage, antiseptic dressings, immobilization, rest, extension and counter extension. Of course, lacerated muscles, tendons, sheaths, nerves, veins, arteries should receive the necessary attention by buried catgut suture if necessary. All foreign bodies should be removed from the wound. If the wound is a compound comminuted fracture the fragments should be retained and bound with strands of chromicised catgut or kangaroo tendons. The Great Physician taught to gather up the fragments, that nothing be lost, this example must be strictly followed by every one in the treatment of compound comminuted fractures. Before the days of antiseptics, during the United States civil war, the mortality was 50 per cent. from infection, sepsis, septicaemia, pyaemia, erysipelas and hospital gangrene. Today through antiseptics and asepsis the mortality has been reduced as low as three or five per cent. By the latter treatment, mutilating operations, primary and secondary operations and resections have been prevented; the healing process has been shortened and functional results have been improved and increased.

FIRST AID TREATMENT IN COMPOUND FRACTURES.

Of the cases that came under treatment during the first 24 hours, in 115 cases aseptic healing of the wound occurred; in the cases in which first aid was rendered later than 24 hours, the mortality from sepsis was three times greater and the number of aseptic wound healings was reduced to one-half.

The responsibility of treating a compound fracture is very great. The first aid dressing as was used under the directions of Dr. Nicholas Senn, surgeon-general in the Spanish-American War will determine the salvation and function of the limb and life of patient, and the process of wound healing. The greatest antiseptic precautions should be taken in the first aid dressing. The injuries of a compound fracture will often make it difficult to decide whether it is best to use conservative treatment and try to save the limb or do primary amputation and

save only the life of the patient. The great risk of a compound fracture is the infection of medullary tissue with micro-organisms that produce fermentative putrefactive changes in the primary wound secretions. Senn states that the treatment of the wound is of far greater importance than that of the fracture itself; more especially, the first two weeks—a combination of the most thorough antiseptic treatment of the wound with immediate and perfect reduction of the fracture followed by fixation of the fractured limb by some kind of plastic splint, yields the best results.

Nussbaum—The fate of the wound rests in the hands of the one who applies the first dressing—"No wounds are too small to be overlooked or neglected, none too large to be despaired of."

The numerous lymphatic channels of the skin render superficial wounds liable to streptococcus infection. Doctors of all men should be the most cautious with themselves and avoid infections.

An artery may become impermeable by laceration of the intima—and detected by enfeebled circulation below the injury and a bruit at the seat of injury. In lacerated and contused wounds attending compound fractures, the nerves, arteries, veins, muscles, tendons and sheaths may become injured and demand the necessary surgical treatment. Senn states, "If I had the choice of operating in the most elaborate operating theatre without a trained nurse, and in the kitchen of a farmer's house with a trained nurse, I would not be long in deciding in favor of the latter, and I am confident that the patient would be benefitted by the preference." Country surgeons have obtained wonderful results for good in country homes in the treatment of compound and compound comminuted fractures. A splendid operating room with elaborate facilities for asepsis is desirable, but not essential to obtain the best results. The physician and surgeon should exercise the utmost care and gentleness in the examination of every case of fracture, rough and reckless handling of the limb will add additional injuries to the soft tissues, cause greater separation of the fracture and an increase of pain to patient.

"The practitioner who undertakes the treatment of a fractured limb assumes a moral and a legal responsibility that can only be met by the careful employment of all known diagnostic resource in establishing the existence, location and nature of the fracture, the presence or absence of serious complications; the adoption of a treatment based on correct mechanical principals, and unremitting attention during the after-

treatment for the purpose of securing the best obtainable functional result compatible with the nature of the injury." (Senn) One of the most important indirect causes of wound infection is the primary wound secretion which if permitted to accumulate in the wound, serves as a nutrient medium for the microbes that may have been introduced into the wound and which without such a culture substance might have remained harmless; therefore, keep the wound free from culture media by thorough drainage, the soil barren to micro-organisms by asepsis and antisepsis—prevent dead spaces by drainage. It is inexcusable, almost criminal, to touch a recent wound with hands that are not surgically clean—more is lost by hasty action than by the delay caused in an earnest attempt to prevent infection by disinfecting the hands. Dirty hands have destroyed more lives than all the implements of war. (Nicholas Senn.) One of the most important factors in the successful treatment of a compound fracture is a good surgical nurse. It is with the aid of the trained nurse that the general practitioner will regain the surgical work that rightfully belongs to him. Where shall the patient with a compound fracture be treated, at home or city hospital?

Before antiseptic surgery was practiced, city hospitals were in very bad repute and many city hospitals are in bad repute today and surgeons prefer to do their surgical work in the private homes of the patient where one or two rooms can be converted into an ideal, successful, up-to-date hospital—the further back in the country the purer the air, more brightly shines the sun, the flowers have richer colors and have a more fragrant aroma, the air contains more ozone; the water, meats, vegetables and fruits are not tainted with micro-organisms, the fields and forests have a more beautiful verdant panorama; the birds sing with more melody; all nature is in harmony; the nurse, patient and surgeon are in harmony, yea, even the patient's friends are in harmony. No blasphemous oaths from the mouth of the surgeon to blacken and char the walls of the operating room or contaminate the pure ozonic atmosphere. So mote it be. Selah. Of course, the patient has the best chance to recover in the private home with trained nurse, and we country surgeons are proud of this fact, and chronic surgical diseases demanding prompt life-saving surgery can get the same golden successful surgical treatment in the country that the acute surgical cases receive.

Discussion was made by Dr. Michael Casper, of Louisville, and Dr. A. D. Willmoth, of Louisville; the latter presented a cast with

an impermeable dressing to water to protect the plaster splints when fenestra were necessary to be made in the plaster dressing in the treatment of compound fractures. This dressing is made by dissolving dentist's rubber in gasoline or chloroform, forming a paste with numerous flakes of absorbent cotton worked into it and properly applied with hands, the latter protected with rubber gloves to prevent the paste from adhering to the fingers. Dr. Carpenter closed the discussion with a demonstration of the numerous drawings he had, illustrating the pathology and treatment of compound fractures.

TREATMENT OF COMPOUND FRACTURES.*

BY WILLIAM L. MOSBY, BARDWELL.

When asked by your committee to present a paper before this Association, I was presumptuous enough to believe the subject of the "Treatment of Compound Fractures" would be reasonably easy and afford the essayist much pleasure, but after casting about the field of surgical literature for subject matter, we found that limitations from without and within were so great as to discourage the effort and render progress almost impossible.

A fracture with a wound of the soft parts permitting communication with the external air was regarded as a most formidable condition before the introduction of the life-saving methods of Lister, following the great researches of the immortal Pasteur, the mortality ranging from 40 to 50 per cent., dooming the unfortunate to a premature death by sepsis unless primary amputation was quickly done.

This extreme death rate has been reduced to about 3 to 5 per cent. by the modern principles of antiseptic surgery, showing a wonderful advancement by these methods.

Lister and others have shown that the atmospheric air is not the "*materies morbi per se*" that increases the mortality in compound fractures above that of simple, but the microorganisms it contains.

Air freed from bacteria in contact with wound surface is harmless, but such pyogenic organisms as the staphylococcus pyogenes aureus and albus and the streptococcus pyogenes are the most frequent sources of concern to the surgeon in the management of these cases.

Wound infection will usually make itself known within 48 hours and may occur from single pyogenic or mixed infection the "clinc ensemble" indicating the bacteria

*Read before the Kentucky State Medical Association, October 19-21, 1909.

present. The staphylococcus will generally terminate in local suppuration and possibly necrosis of the fractured bone ends, while the streptococcus infecting either singly or mixed will produce a diffused phlegmonous inflammation with its usual complexity of symptoms. A more formidable, or we might say malignant form of wound infection, however, is that due to the bacillus aerogenes capsulatus of Welch and Nuttall producing emphysematous cellulitis and the bacillus of malignant edema producing a rapidly spreading form of gangrene, either of the latter types justify and require early high amputation as a life saving method which should be speedily performed.

Volkman, who has possibly done more to advance the successful treatment of compound fractures than any other one surgeon, as far back as 1877, reported 75 cases of compound fractures with no deaths and only eight or 11 1-10 per cent. required secondary amputation. His method was to enlarge the wound, remove all blood clots and splinters of bone, cut away all tissues and bone ends which threaten to become necrotic and provide ample and thorough drainage by making counter openings to drain all pockets of the wound following this with packing the area exposed with sterile gauze. This was a happy combination of the open and occlusive treatment and notwithstanding his wonderful success as compared with the pre-antiseptic days, most surgeons concluded his methods too radical and in many instances unnecessary and that more modern and less active measures gave better results.

Debridement. This term was used by Volkman to indicate surgical interference in certain cases of compound fracture, but its scope of usefulness is being more and more restricted, as its needs are not surgically, well defined, it may, however, be substituted for primary amputation where we are justifiable in attempting to save the limb, we should restrict its use to cases where extensive injury to skin and soft parts has occurred.

In the application of the principles of this method of treatment we should use an anesthetic and apply an elastic constrictor well above the site of injury. The skin should be thoroughly scrubbed with soap and water, the parts shaved and soap washed away with sterile water, followed by alcohol, ether and one to five thousand bi-chloride solution in order named and if the parts are contaminated with oil or grease, turpentine will be better to complete the purification. Ragged or projecting ends of skin and shreds of tissues should be cut away and the wound enlarged and irrigated with normal salt solu-

tion or the per oxide of hydrogen, the stronger antiseptics not being indicated unless positive evidence of wound infection is present, this can only be determined by conditions at time and place of injury and up to time of surgical intervention, such cases require under this method, where evidence of positive infection is present, the use of 1 to 5000 of the bi-chloride solution freely irrigating all recesses of the wound, followed by Tincture of Iodine extending into all corners and pockets, and the parts more directly in contact with infective material even pure carbolic acid may be applied to such surfaces immediately washed away with alcohol.

All foreign substances, including blood clots and completely detached pieces of bone should be carefully removed, not disturbing the periosteum of the bone.

Resection. Resection is only indicated under the following conditions:

- (1) Where ends of bone are badly crushed.
- (2) Where the medulla contains dirt, or
- (3) If possible to reduce the fracture.

Removal of bone substance, splinters and end resection favors pseudarthrosis and is to be discouraged unless strongly indicated, being better to enlarge flesh and skin wound, reduce bone without sutures. Where we have marked displacement and inability to maintain apposition, some form of fixation of bone will be necessary and the surgeon has many methods to choose from the principal ones being wire ligature (cat-gut or kangaroo) screws, nails, ivory pegs, clamps, etc. The silver wire or bronze aluminum wire are perhaps the most satisfactory and their employment should be under the strictest aseptic precautions and in the most painstaking way. Klauber suggests in these very serious cases where there is great danger of secondary infection, there should be thorough extensive packing of the soft parts with gauze including separation of bone ends with intervening gauze and after danger of infection and inflammation have passed secondary suture applied if required to maintain bone apposition.

Conservative Treatment. The policy of non-surgical intervention is the one most frequently adopted at the present day in the treatment of compound fractures, and has the advantage of ease and simplicity in application and that the results attained are satisfactory as compared with other methods employed, its advocates claim less danger of infection by fingers or instruments of attendant and therefore that a compound is more quickly converted into a simple or closed fracture, greatly reducing the danger of complications, certainly an ideal desirable to be attained in these cases.

Klauber and Rimann give the most modern statistics of the conservative treatment of compound fractures available. Klauber reports eighty-four cases from Wolfers Clinic with five deaths due to sepsis, 5 5-10 per cent of these three refused operation in time to be of value and fifteen cases, 17 9-10 per cent. required secondary amputation or re-amputation for sepsis, and of the fifteen four or 4 6-10 per cent. died and 11 or 13 1-10 per cent. recovered; sixty-four cases, 76 per cent. gave primary union.

Rimann's two hundred and sixteen cases reported from Trendelenberg's Clinic, gave eight deaths, or 3 7-10 per cent.; of these eight cases, five died of fat embolism, and two of sepsis; of two hundred and eight cases, one hundred and forty-three, or 68 7-10 per cent. resulted in primary union, and of the latter 12, or 5 6-10 per cent. required secondary amputation. This large per cent of primary union argues strongly for the general adoption of the conservative method of treatment of compound fractures. The principle involved in the conservative treatment is that of thorough disinfection of the skin and adjacent parts, irrigation of the wound if there is suspicion of infection with bichloride solution, 1 to 5000, or carbolic solution, 3 to 5 per cent., the strength and character of the disinfectant being determined by the probable extent and character of the infection. In the process of purifying the surgical field, we should cover the torn and lacerated tissues with a moist compress of the above antiseptic solutions and carefully wash away from the wound, after we have thoroughly cleansed the area around the wound the wound is next freed from all dirt, blood clots, detached splinters of bone, etc. Should a fragment of bone project through the skin, disinfect as before, or use peroxide of hydrogen, or if dirt or grease is so ground in as to be difficult to remove, better use Spt. of Turpentine followed with alcohol, completing the process with sterile water.

Where there is a strong tendency to displacements of bone, we may resort to wiring as in other conditions, the cat-gut or kangaroo being sufficient if there is little traction, but if greater, will be better to use silver, or a stronger method of fixation.

Where there are small skin wounds, it will usually be better to leave them open for drainage, although a great many prefer to seal or "close them up," believing the danger of further infection is less; this has not been my practice, leaving the flesh wound to close by nature's process after thorough disinfection, and under antiseptic dressings and daily attention to local condi-

tions is, we think, better. Where it has been necessary to enlarge flesh and skin wounds for purpose of replacing bone ends that may be projecting, it will usually be better here to leave this to nature's forces and not suture, as is the practice of some who adopt the method of closing all but opening enough to allow a cigarette drain of gauze.

Fixation splints, or immobilization is secured as under other methods of treatment.

In the treatment of compound fractures, it is better to give more attention to wound condition for first few days or even weeks, and secure early local repair with minimized danger of infection and at a later period, after sufficient restoration of the circulation and vascularization of the parts has occurred, to utilize the simplest form of mechanical immobilization compatible with the requirements of the case. While splints are a "*sine qua non*" in the management of most of the cases of compound fractures, yet their usefulness depends on the condition of the patient, extent and nature of the injury and adaptation of the mechanical appliance to contour and function of parts involved, etc.

In the application of the methods of immobilization, we should not lose sight of the dangers of too tight dressings, as pressure sores, or even gangrene, with its necessary mutilations, may follow the careless or too early application of the circular bandage before the circulation has become fully re-established hence a careful examination of the blood supply and noting as to presence or absence of arterial pulsation in distal parts involved and avoidance of constricting dressings until we have positive evidence of a restoration of the circulation.

It would be much better where the blood supply is not destroyed, and yet the circulation is much enfeebled, to elevate the limb and use the "*vis medicatrix naturae*" with necessary local antiseptic dressings and wait for restoration of the weakened circulation in the parts and then use the least obstructive dressings possible to meet indication of fixation. In limb fractures we may use the moulded plaster of Paris splints which lessen the danger of obstructing the circulation in the parts. In its application we should first make a pattern of the limb to be immobilized, apply a layer of sheet wadding of proper dimensions covered by eight or ten layers of crinolin gauze saturated with plaster cream, evenly and smoothly apply to limb and cover this with a few turns of a roller bandage until plaster is thoroughly set and then dressing may be retained with surgeon's plaster.

Should we prefer the circular dressing of plaster of Paris, it may be used by applying crinoline over sheet wadding next to limb,

in smooth layers in successive turns rubbing in plaster cream until the desired number of turns have been applied.

If we wish to open the dressing, usually necessary in compound fractures, it is better to insert a strip of cardboard or tin along the line where the division is to be made, this dressing will require that we leave a window in cast large enough to inspect and treat wound which should be lined with dental rubber by dissolving No. 2 dental rubber in commercial chloroform made into a semi-gelatinous paste into which lamb's wool is worked until a meshed mass results. This is placed in shreds between the skin and cast and the dressing is completed by covering plaster cast with shellac. In case we wish to make our cast lighter we may use wheat gluten to finish cast instead of plaster applying as before. In fractures about the knee joint we may use a "U" shaped iron rod where we wish to use the window method by placing a rod on each side of the joint, connecting the plaster above and below thereby allowing ample opportunity for inspection and wound treatment. The suspension method of immobilization for limb fractures have the advantage of convenience in changing dressing and give comfort to patient by position, elevation and extension, being easily obtained and rendering it easy to change position at any time by either patient or attendant. The N. R. Smith anterior splint made of wire or Hodgens splint are very useful, especially in case of leg fractures, where extension and counter extension need to be combined with elevation and fixation treatment.

The surgeon should remember that in the application of splints to fractured limbs, they require to be made to fit individual cases and that as a rule manufactured splints fail in this particular and that each case requires to be studied and treated according to anatomical and functional indications.

If we wish to attain the highest degree of success possible in the treatment of compound fractures, we must carefully consider the anatomy and physiology of the parts involved and meet indications accordingly. Neglect and carelessness are never justifiable but each case should have our best and closest attention to detail in management throughout, and we wish to not only recommend, but to urge that every member of this Association fortify against medico-legal complications and annoyances by joining the Defense Branch of this Association. It is well to give a reserved prognosis and foretell possibly bad results, that may occur in these necessarily serious cases faithfully endeavoring to prevent the same. Criticisms

should be reserved for our own unfortunate patients and individual and professional interests if nothing more should dictate course of silence or complimentary comment as to the work of our fellows.

DISCUSSION.

A. D. Willmoth, Louisville: I want to discuss these papers, because I think they are of vital interest. In the first place, I want to speak with reference to asepticizing the wound at the time the surgeon sees it. I think many surgeons infect their cases of compound fracture at the time they attempt to cleanse these wounds. You should first pack the wound down to the bone with some suitable material, after that cleanse it by the methods that have been mentioned, removing with gasoline or turpentine the grease which may have been ground into the soft structures.

The next point I wish to speak of is the use of some form of dressing to hold the fracture in position which will allow you to inspect it as often as is necessary, and at the same time, allow the use of such methods as will remove the material which accumulates there and acts as a pabulum for the growth of bacteria. The dressing spoken of by the essayist, that is, the interrupted plaster of Paris splint on the limb, is very practical and useful, incorporating malleable iron splints which should be one-sixteenth of an inch thick and five-eighths of an inch wide, one on the side, and one in the middle, with U-shaped arrangement. If you want extension, by spreading the "U" which you have made in the iron, you can get all the extension you wish. The rubber dressing spoken of can just as readily be dissolved in gasoline as in chloroform. The ordinary surgeon's cotton can be torn to pieces and worked into the rubber, to the consistence of thick cream, and then you can glue the surface of the dressing to the skin, and you then have a water-proof dressing, which is necessary in these cases, because we recognized long ago the more fluid we use of a mild character, the better it was for the wound; in fact, much better than the use of a strong antiseptic solution, with the possibility of carrying bacteria through the tissues. It is better to use normal salt solution than the strongest antiseptic because it will act mechanically as well as chemically by washing out what debris is there. The dressing referred to sticks readily to the skin where you wish it to stick, either below, or at the side of the fracture, and allows of constant irrigation if desired.

The next point is to hold the bones in position, and for this purpose the essayist spoke of the use of silver wire. That is used by many surgeons, but I believe in the majority of cases where silver wire is used, or ivory pegs, or substances that are non-absorbable, many times

we will have to go back and remove them. Furthermore, the patient is likely to have a sinus at the side of the fracture. In place of silver wire I would suggest the use of annealed iron wire, a cheap substance, which you can get at any hardware store. It has tensile strength. It has the great advantage, when imbedded in the structures, of becoming oxidized by the secretions of the structure, and is removed by nature by absorption.

Micheal Casper, Louisville: In regard to antiseptics, I will say that, in the first place, I find I get just as good results from the use of normal salt solution as from bichloride solution. Bichloride solution will kill the germs, but it also injures and destroys the vitality of the tissues, and in that way does harm instead of good. The bichloride solution must be in contact with the germs before it can destroy them, and we are not doing worse when we employ mechanical means, that is, using large quantities of normal salt solution, with plenty of good soap and water.

Another important thing is to examine the soft structures closely. A nerve may be cut and not be recognized unless you make a careful and close examination. A nerve in the region of the injury should be looked after to see it is not cut.

Another thing about these cases is this, that every one of these fractures is a law unto itself. We cannot lay down any routine method of treatment for any one fracture. We cannot treat a compound fracture of the skull like we would treat a fracture of the extremities. Every part of the extremity requires different treatment. Again, this form of surgery is more difficult than routine laparotomies or operations of that kind.

Another important thing which has come into use lately in the treatment of compound fractures is Bier's hyperemia. It has played an important part in obtaining successful results in these cases, especially in those that have become infected, in those in which dirt and grease have been ground into the wounds. There may be lots of grease which we cannot remove, and we have got to fight from the first a septic wound; but with the use of Bier's hyperemia treatment in conjunction with other methods we get better results.

With reference to having a consultant, that is important whether we need his assistance or not, just for the moral effect it has and to protect us later on. After the wounds have healed, especially those of the arm, I think the case should be examined with the X-ray. Furthermore, we should remember the golden rule, and not drop any casual remarks about the results of some other doctor's work, which not infrequently may lead to the bringing of a malpractice suit because of some casual remark

having been made about an imperfect result in the practice of another doctor. If we cannot praise, for God's sake let us keep still, and not say anything about it. That will help to decrease the number of damage suits.

THE FORUM.

APPEAL TO THE MEDICAL PROFESSION OF THE WEST AND SOUTH.

Up to the present time there has not been a concerted effort made to collect and preserve historical data in regard to the origin, evolution and personnel of our profession in this part of our country. The result of this delinquency has been the total loss of much material that should have been preserved, especially pertaining to medical schools and societies, and biographical matter in connection with the practitioners and teachers of medicine of by-gone days. A good deal of material of this character is still obtainable if a systematic effort is made to locate and preserve it. It is in the possession of individuals, families and private libraries and will eventually be lost. *The Western Association for the Preservation of Medical Records* was organized in May, 1909, for the purpose of collecting the historical and biographical records of the profession of the West and South. We wish to preserve anything and everything pertaining to Western medicine and medical men and are anxious to enlist the active help and support of every member of the profession who is in sympathy with our aims. We want every one to become associated and identified with the work of our Association. There are no fees or obligations of any kind. We have made arrangements with the Lloyd Library, Cincinnati, O., for the proper housing of the material collected. The latter will be systematically arranged, catalogued and properly preserved so that it can be made available for research work. We are particularly anxious to obtain

1. Medical Journals published in the West and South prior to 1880.
2. Medical books and pamphlets written or published in the West.
3. Manuscripts and autographs of early Western physicians.
4. Old diplomas and other documents of a medical character.
5. Proceedings of medical societies.
6. Reports of hospitals and other medical institutions.
7. Catalogues and Announcements of Western medical colleges of all "schools."
8. Biographies and portraits of Western physicians.
9. Information and material of any kind

pertaining to medicine and medical men and affairs in the West.

10. Curios of a medico-historical character.

All contributions should be sent in care of the Librarian. In view of the fact that we are performing a labor of love and have no funds, our friends and associates will readily understand why all contributions sent by express or freight should be prepaid so that no expense may accrue to the Association. The necessary expenses of the Association are at present being met by voluntary contributions of its organizers.

May we not count upon *your* active help and support? We would like to hear from every member of the profession who is interested in the proposed work.

C. A. L. REED, M. D., Chairman.

OTTO JUETTNER, M. D., Secretary.

A. G. DRURY, M. D., Librarian,
710 W. Eighth St., Cincinnati, O.

TO THE EDITOR:—

I would be very much obliged if you could insert the following news item in your valued journal.

"The President of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington, on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of Obstetrics in America.

The Committee consists of the Professors of Obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, John Hopkins University, Cornell University and the University of Chicago.

"Communications from anyone interested in the subject will be gladly received by the chairman of the Committee, Dr. B. C. Hirst, 1821 Spruce St., Philadelphia, Pa."

Thanking you for any assistance you can afford the committee in their work, believe me,

Sincerely yours,
B. C. HIRST.

TO THE EDITOR:—

The New York Post Graduate Medical School is establishing in its new buildings a full equipment of wards and laboratories for the teaching of Tropical Medicine. The department is being conducted under the co-operation of the U. S. Army, Navy and Public Health Services, who detail officers from their respective Medical Corps to assist in the conduct of the laboratory and clinical courses.

TO THE EDITOR:—

I am in receipt of your very courteous and complimentary letter. It warms the cockles of a fellow's heart to be kindly remembered with a friendly epistle from a loving hand, and doubly so is such an endearment welcome to a medicus who has been tabernacling, vegetating and ruminating on the desert in Southern Nevada for many moons, and so far away, too, from the maddening medical crowd. Yes, your is a real, breathing love letter.

The words, "love letters," recall blue ribbons, locks of hair, miniatures and dead roses, and they are as various as the hands that write them and the eyes they are meant to bless.

I have been a hoarder and prizer of letters since when the halcyon days were mine. I have stacks of them yellowed by years and some of them rendered absurd by altered circumstances.

We pity dreamers and their moonshine pictures, their love-words written or recalled as spoken, and faces whose lining fades as the real one has faded under the coffin lid. And yet, such trifles are heart-treasures as sure as gold and silver are riches of the purse; and as long as there is a world of fancy and of feeling, as well as a world of dry goods and roast beef, so shall old love letters find hoarders, and so long shall the past and the present be bridged by heart-dreams of the words felt and written in the by-gone times. I shall treasure this one of yours.

I am pleased to read in the latest issue of the JOURNAL the acts and doings of the Louisville meeting, which was a success beyond peradventure. Even visual orbs somewhat marred by strabismus would admit this as a verity. To me, at this distance, facts and fancies seemed to run from the rising of the sun until the going down of the same. Medical thoughts and feelines, videlicit—knowledge of their subjects—from the speakers, didn't come singly and stingily, but in avalanches.

People always act more naturally in their every-day clothes than they do when dressed for Sunday, and the reason is that they are unconscious in one case and self-conscious in the other. But the boys, in their "go-to-meet-in' togs"—I see them all now, 'tis hardly Fancy's freak doth so profoundly avail—retained their multiform qualities as was logically to be expected and orated scientifically, sensibly and to the point, in the discussions.

Habit is stranger than intention, and somewhere the common run of speech will break through and betray you. To talk medicine and surgery well at *sometimes* requires that you shall converse and "speechify" well, on

these topics, *at all times*. Every member, who rose to his pedistal digits, impressed me with his transparent language and that he knew whereof he spoke.

Some of the readers and speakers were new to me, especially the distinguished from abroad, and were enjoyable; but I recognized my old friends and acquaintances with their finer sensibilities (was it my prejudice?) which enabled them to feel the pulse of the audience to which they were speaking.

I observed that my friend, Carpenter, was in evidence, too, he the hero of a dozen county and district medical organizations within the past six years, and his reward was the presidency of each of them. The exuberant humor and veiled pathos, the reserve and abandon, the comedy and tragedy which he puts into his discussions, intimately mixed as they are with truths gleaned from experience, post-graduate work and hard study, exhibit to one, who has known him for a jubilee of years, that "Jeems" is yet himself with a keen vision and true insight on all medical topics. Long may he wave a wish with which he is in accord, so attached is he to his profession, to his friends and his numberless acres, in the east end of Lincoln, over which he rides in his auto, and from which he alights, elastically, from the front rather than backward, which would indicate, so said, approaching senility. He may grow old, but aged, never.

I have meandered over more paper than I had expected. It is hardly worth your attention to speak of the agricultural and mineral resources of the far West, with which you are so familiar; suffice it that the climate of Utah is tonic, that prosperity is rampant and that the president of the Mormons has passed his seventy-first mile-stone, enjoys the best of health and that measure of strength which gives reason for the hope that he may see many years of usefulness as a *pater familias*. A few more words and I will ring off.

I felt sure that Shirley would make good as a presiding officer and that his reign would be surrounded with a halo, inasmuch as having familiarized himself with the Acts he would obey the injunction of the town clerk of Ephesus and do nothing rashly—his "acts" were graceful and becoming.

Deep down, deep down, through care, through pain, through age, I prize above all other gifts the memory of the Kentucky State Medical Association, with which for many years—and which are gone as a school-boy's dream—I was associated as an actor.

O, wonderful stream is the river Time,
As it runs through the realm of tears,
With a faultless rhythm and a musical rhyme

And a boundless sweep and a surge sublime,
As it blends with the Ocean of years.

Very truly yours,

STEELE BAILEY.

Mammoth City, Utah.

November 17, 1909.

DR. GEORGE H. SIMMONS.

NEW MEMBER OF THE U. S. P. BOARD OF TRUSTEES.

George H. Simmons was born in England, January 2, 1853, and came to the United States in 1870. His literary education was obtained at Tabor College, Iowa, and at the University of Nebraska. His professional education was obtained at the Hahnemann Medical College, Chicago, from which he graduated in 1882, and at the Rush Medical College, from which he graduated in 1892, these studies being later reinforced by a period of post-graduate work in several European schools and hospitals. He received the honorary degree of A. M. from Tabor College in 1899, and the degree of LL.D. from the Northwestern University in 1907.

Dr. Simmons early became prominent in the work of medical associations, and has served as the Secretary of the Nebraska State Medical Society and of the Western Surgical and Gynecological Association. He was elected General Secretary of the American Medical Association in 1899 and editor of the Journal, which position he still fills.

It is in connection with his position as General Secretary of the American Medical Association and editor of the Journal that his greatest and most important work has been accomplished. Through his constructive efforts the association has evolved from a loosely coherent body into a closely knit and powerful organization the decision of which upon ethical and professional questions is accepted as the last word by the great majority of medical practitioners of the United States, and is received with corresponding respect abroad, while the Journal has developed from a comparatively unimportant publication of limited usefulness into the most widely circulated and most influential medical publication in the world.

It was also due to his constructive genius that the now celebrated Council on Pharmacy and Chemistry was organized, the efforts of which have been mainly devoted to the investigation and exposure of fraudulent proprietary medicines, whether advertised to the medical profession or direct to the laity. His work in this connection has been fearless and uncompromising. Many of the most blatant frauds of the proprietary class have been entirely driven from the market, the

sale of others has been greatly reduced by their exposure, while still others have largely modified their claims as to therapeutic efficiency.

So effective have been the efforts of the Council in this respect that the bare announcement that it is on the trail of a fraudulently described or advertised preparation is sufficient to send makers and dealers scuttling for cover.

Naturally Dr. Simmons is *persona non grata* with the proprietors of the medical and pharmaceutical frauds which he has exposed, but he remains apparently undisturbed by this contraction of his visiting list.

There is certainly no better moral or other reason why the makers and distributors of a proprietary medicine should practice fraud and deception without restraint than that the makers or dealers in any other fraudulent product should escape exposure and punishment.

For many years the laws of nearly all the states have been such that if one sought to practice medicine or pharmacy in a single neighborhood, he was permitted to do so only after passing the gauntlet of a medical or pharmaceutical examining board, and was then required to practice under certain restrictions, but if he went into the business in a wholesale way he might practice either or both professions over the entire United States without let or hindrance, and without any other restraint upon his ability to deceive than those imposed by the physical limitations of type and printers' ink, and as a consequence the public has been the prey of charlatans of every class and degree.

For a long time those who grew rich by the practice of such wholesale fraud have been permitted to flourish without molestation, but these halcyon days are passing, and for this, so devoutly to be wished-for consummation no one is entitled to so much credit as Dr. Simmons.

In the early part of November of the present year, Dr. Simmons was elected to the vacancy on the Board of Trustees of the United States Pharmacopoeial Convention caused by the resignation of Mr. S. A. D. Sheppard, and brings to his new and important office natural abilities rare among medical men, an enormous capacity for work, and a judgment ripened by experience, all of which will be exercised for the progress and benefit of legitimate medicine and pharmacy. From every point of view his membership is a valuable addition to the Board of Trustees.

COUNTY SOCIETY REPORTS.

Ballard.—At the December meeting of the Ballard County physicians, only four or five were present. The program was not carried out. The election of officers was about all that was done..

W. A. Ashbrooks was elected president. J. S. Johnson, of Barlow, was elected secretary; J. D. Rollings, of La Center, was made delegate.

N. L. Rogers, of Wickliffe, alternate.

T. M. Baker, of La Center, Councilor.

Meeting places for the year 1910 were, Barlow, the second Tuesday in March; Wickliffe, the second Tuesday in June; Kevil, second Tuesday in September; La Center, second Tuesday in December.

Johnson, Meshew and Page on program to be sent out by Feb 1.

The meeting was closed.

J. D. ROLLINGS, Secretary.

Barren.—The Barren County Medical Society met at Glasgow, December 14, 1909, A. T. Botts presiding. After discussing ethics for a time, the society proceeded to the annual election of officers as follows: President, W. T. Britt, Glasgow, R. D., No. 4; Vice-President, J. C. McCreary, Cave City; Secretary-Treasurer, T. F. Miller, Cave City, R. D. No. 3; Delegate, R. H. Porter, Glasgow; Censor, J. S. Leech, Glasgow.

The society endorses a move to build a hospital.

R. S. PLUMLEE, Secretary.

Bath.—The Bath County Medical Society met in the office of H. J. Daily at Owingsville, Dec. 16, 1909, H. S. Pierce, President, in the chair. The following members were present: Drs. Pierce, Gudgell, Walden, Robbin, I. W. Jones, A. W. Jones, Wells, Gilmore, Clarke and Daily.

The following officers were elected for 1910: L. F. Robbins, President; J. K. Wells, Vice-President; H. J. Daily, Secretary; H. S. Gilmore, censor for three years.

Motion made and seconded that we give Dr. B. Cornelison a rising vote of thanks for the efficient manner in which he represented us at the state meeting. Carried.

L. F. Robbin's motion that we change the meeting from monthly to quarterly was seconded and discussed by every one present, when a substitute motion was made and seconded to meet quarterly in March at Salt Lick, June at Sharpsbury and September at Owingsville, and regular annual meeting at Owingsville in December was carried. The time was set for Thursday after the second Monday.

F. P. Gudgell was appointed to read a paper on "Diet."

B. Cornelison was appointed to lead the discussion of same.

H. S. Pierce was appointed to read a paper on "Differential Diagnosis Between Diphtheria and Follicular Tonsillitis."

A. W. Jones is to lead the discussion.

There being no further business we adjourned to the Owings House to a sumptuous dinner.

H. J. DAILY, Secretary.

Bell.—The Bell County Medical Society met December 5, 1909. Officers elected for 1910: President, J. T. Foley, Pineville; Vice-President, C. K. Brother, Middlesboro; Secretary, U. G. Brummett, Middlesboro; Treasurer, W. K. Evans, Middlesboro; Censors, J. G. Moss, J. R. Tinsley and F. D. Haston. Meeting to be held second Saturday in each month.

The society moved to send the Journal to J. S. Ward, of Clovis, New Mexico.

G. T. Corner elected as a member of the society.

C. K. BROTHER, Secretary.

Boyd.—The Boyd County Medical Society met in annual business session at Ashland Tuesday, Dec. 14, 1909.

The following officers were elected for the ensuing year: President, W. A. Berry; First Vice-President, J. A. Sparks; Second Vice-President, W. W. Morton; Secretary, C. K. Kercheval, (re-elected); Treasurer, H. S. Swope, (re-elected); Censor, (term 3 years), J. M. Prichard; Delegate to State Convention, A. H. Moone; Alternate Delegate, J. M. Prichard.

The post-graduate work will be continued next year and the meetings will be held every Tuesday evening at 7 p. m., October to February inclusive, and at 8 p. m., the balance of the year, in the Y. M. C. A. building, Ashland.

At 9 p. m., the society adjourned and enjoyed and elegant six-course dinner at the Hotel Ventura.

C. K. KERCHEVAL, Secretary.

Caldwell.—The Caldwell County Medical Society convened in the City Hall at Princeton on Tuesday, Dec. 14, 1909, and was called to order by the retiring President, W. L. Cash. The following were in attendance: J. N. Todd, P. R. Shelby, J. N. Bailey, L. O. Young, L. J. Spickard, A. R. Setzer, W. L. Cash and R. W. Ogilvie.

The proposed bill regulating the sale of narcotic drugs was discussed and indorsed, after which the society proceeded to the election of officers for the year 1910, resulting as follows: President, P. R. Shelby; Vice-President, L. O. Young; Secretary and Treasurer, R. W. Ogilvie; Delegate to the State Association, J. N. Todd; Alternate, W. L. Cash. A Board of Cen-

sors was elected consisting of W. L. Cash, C. J. Pollard and J. N. Bailey to serve three, two and one years, respectively.

After a general discussion as to how to make the society a success, it adjourned to meet again on the second Tuesday in January, 1910.

R. W. OGILVIE, Secretary.

Caldwell.—The annual meeting of the Caldwell County Medical Society was held Dec. 14, 1909, and the following officers were elected: P. R. Shelby, who for some reason did not affiliate with us last year, came back into the fold yesterday and we elected him President, as a fitting reward for the returned prodigal. Our Homeopathic brothers have been even less than "luke warm" for the past year or two, so we elected L. O. Young Vice-President, and I hope in this way their interest will be stimulated. The society saw fit to elect me secretary for another year and J. N. Todd was selected as Delegate to the State Society.

There has been a great deal of friction in our society for the last year, but think all the factions are now pacified and that we will get down to work and do something.

W. L. Cash was elected as Alternate Delegate.

R. W. OGILVIE, Secretary.

Carlisle.—The Carlisle County Medical Society is in splendid working order, we hold our meetings quarterly, with occasional call meetings and also hold an annual joint meeting with one of the adjoining counties.

These meetings are well attended and much interest is always manifested. We have eighteen registered physicians in our county, seventeen of whom have their names enrolled on our membership list, but three of them, on account of old age have dropped out and only affiliate with us as honorary members. The remaining ones we have not been able to interest enough even to attend our meetings.

There is very little friction among our members about one-half of our members have joined the Medical Defense Branch of the Kentucky State Medical Association. On account of being rained out at our September meeting I have been unable to get any expression of the members in regard to the proposed "Home for Old Physicians," but will take the matter up at our December meeting. We are well pleased with the manner in which the State Organization and the Journal are being conducted.

H. T. CROUCH, Delegate.

Carlisle.—The Carlisle County Medical Society met in regular annual session at Bardwell, in the First Christian Church, December 7th, 1909, 10 o'clock p. m., W. L. Mosby, president, in the chair. After divine service by Revs. W.

S. McCaslin and Mitchel the minutes of the previous meeting were read and approved.

Committee on arrangements reports the above named church house for place of holding the day's meeting and dinner to be served at the Roberts Hotel.

Committee on Credentials (Drs. Hocker, Payne and Gholson) reported favorably the names of T. J. Marshall, of Bardwell, and Homer A. Gilliam, of Milburn, for membership, whereupon they were unanimously elected as members of the Carlisle County Medical Society.

The scientific program was then taken up.

J. M. Peck read a paper entitled "The Kentucky Medical Journal and the State Organization," which is published elsewhere in the Journal.

W. Z. Jackson came next with a paper. His subject was "A Plea for a Return to Official Remedies."

H. T. Crouch, Payne, Gholson, Hocker, Marshall, Mosby, Shelbourne, Graves, Peck and Jackson ably discussed these papers. The speakers were a unit in praising the high standard the Journal had attained, recognizing it as the mouthpiece of the Medical profession of Kentucky. It is ours to still improve and keep it abreast of the times as one of the best State Journals published in the United States. The majority of the physicians of Kentucky are members of the State Medical Association, many of whom are as capable members as the United States affords and our annual state meetings are attended by some of the most talented teachers in the States. All praise was given Dr. J. N. McCormack for his self-sacrificing and untiring energy in effecting such a splendid organization and directing the Medical profession as well as the laity in the proper way to preserve health and prevent the spread of infectious and contagious diseases. Since our organization we have been made to study more closely the different branches of medicine, especially Materia Medica and this has resulted in the dropping of a great many of the proprietary remedies, so many of which are found to be irrent and unreliable. Evidently the members are turning to rely upon the standard remedies of the U. S. P. and N. F., these two papers were ordered published in the Journal.

The President presented each member of the society with a little pamphlet containing "Some important preparations of the U. S. P. and N. F." (standards) and our druggists will be asked to stock up on some for our use.

Adjourned for dinner at the Hotel Roberts.

Afternoon Session, 1 O'Clock.

A symposium consisting of the following subjects:

C. D. Shelbourne, "The Management of Normal Labor.

F. N. Simpson, "Management of Abnormal Labor Due to Faulty Presentation."

W. E. Gholson, "Management of Injuries to Birth Canal During Labor."

J. R. Owens, "When and How to Use Forceps in Child Birth."

W. A. Graves, "Versions in Labor, When and How Performed."

In the temporary absence of Dr. Shelbourne, Dr. Hocker gave a brief description of the modern management of normal labor; asepsis and antiseptics always to be observed; no ante or post-partem vaginal douche demanded. Chloroform seldom required; support perineum by pressure on head. Do not use Ergot as routine after third stage.

J. M. Peck, in absence of Dr. Simpson, briefly outlined the proper management of cases of abnormal labor due to faulty presentations. Besides speaking of shoulder and face presentation, which should be corrected as early in labor as the dilating parts would permit either by podalic version or forceps rotation. He called attention to a rather frequent faulty presentation of Vertex on pubic brim of pelvis with no inclination to engage in the pelvis. This presentation he found more often in fleshy women and multipara with reflexed abdominal walls. Pressure with hands just above pubis during uterine contraction will generally correct it.

The other three essayists then followed with their papers, each doing full justice to his subject which completed the symposium and as these papers will in due time appear in the Journal, no extract will be offered.

G. W. Payne, in opening discussion, said in part: Use cleanliness in all cases, let normal cases alone, a little chloroform and pressure on head to prevent laceration. Shoulders responsible for tears in his cases. Don't leave mother until third stage is over. Crede method if placenta slow to pass. Face presentation will usually rectify themselves. When forced to use forceps or decapitate. Shoulder or arm presentation will also often correct itself by spontaneous podalic version, but had better bring down foot as soon as dilation permits. He would use forceps in head presentation. First, when meconium is escaping after the water breaks. Second. Weak mother and continued weak pains in any case after dilatation. Third. Eclampsia and placenta previa and in all unfavorable presentations endangering mother and child. Fourth. Hemorrhage. Should carry everything necessary to meet emergencies. Examine ocularly for lacerations and repair at once, however slight.

R. T. Hocker always carries Ergot and forceps and chloroform. Seldom uses latter as he believes it promotes hemorrhage. Pressure on head prevents laceration to great extent. Never has sepsis. Uses cleanliness to prevent. The

head not advancing for three to four hours, he was compelled to use forceps only twice during the last thirty years. Would do podalic version in shoulder presentation.

T. J. Marshall always gives chloroform in second stage; doesn't think it aids to hemorrhage. Does not give ergot in post partem hemorrhage. Sweeping out clots and kneading uterus always stops is.

C. D. Shelbourne: Breech and face presentations are often hard to differentiate early from vertex presentations, and hand and shoulder presentations, more frequently met with in twin pregnancies, do often spontaneous versions. The first child presenting as described by Dr. Payne being born last. (The Bible as recorded in Genesis showing case). Glad to have consultants in such cases. Chloroform safe if you stay with patient till firm contraction of uterus is obtained. Antiseptic vaginal douche almost criminal in normal labors as ignorant nurses are liable to carry in more septic germs than the wash brings out and it also washes away natural secretion which are antiseptic. Have had one severe contusion of perineum caused by pressure on perineum and head to prevent laceration, therefore, would advise caution in its use.

W. E. Gholson used good soap as lubricant to hands, believing it to be aseptic. Had only one shoulder presentation in fifteen years' practice. After os dilates does podalic version. Gives bromides and chloral for rigid os, as chance of hemorrhage. Waits for nature to expel placenta as long as thirty to sixty minutes before interfering. Don't use abdominal bondage until mother is ready or able to be out of bed.

N. Z. Jackson indorses the use of chloroform in labor. Never had hemorrhage to follow its use, but gives ergot after using it.

J. M. Peck does not press perineum. And abrasions or lacerations too small to be recognized by the finger will heal promptly without stitches, therefore, ocular exposure is unnecessary.

W. L. Mosby: In all labor cases when time will permit, give a bath and clean-up generally. Make early diagnosis of presentation and when abnormal position correct it before discharge of water.

In one case on arriving at bedside, found arm protruding from vagina, shoulders and front chest jammed in pelvis. Vicious pains keeping driving the parts down. When soon the back, hips followed by head and feet were driven out. Of course, this is a rare instance in which a small child could pass through a large pelvis in such a position. Generally you have time to do podalic version in such cases. Often in face and occipito-posterior positions of head the forceps are valuable aids to nature as well as in other proper conditions already mentioned. Chloroform is also used and chloral in severe

cases of pain with slow dilation. Ergot after third stage in sluggish contractions is useful.

Dr. Hobbs, (County Judge-elect, present by invitation): Have spent a pleasant evening with you. I note there has been no change in practice of obstetrics since I dropped out about twenty years ago, in fact, there can be none in normal cases, nature does the best work. I use to think good doses of quinine stimulated slow and weak pains in normal cases. Abnormal presentations are treated by manipulations as yore. You carry about the same armamentarium, too. I hope to meet with you again soon.

The election of officers for the ensuing year resulted in the election of the following:

President, J. R. Owens, Arlington; Vice-President T. J. Marshall, Bardwell; Secretary, H. T. Crouch, Bardwell; Treasurer, G. W. Payne, Bardwell; Censor, H. A. Gilliam, Milburn; Delegate, J. M. Peck, Arlington.

Society voted holding monthly post-graduate courses. Commence 1st Tuesday in January at Bardwell.

The following places were selected for quarterly meetings: Arlington, 1st Tuesday in March, 1910. Kirbyton, 1st Tuesday in June, 1910. Cunningham, 1st Tuesday in September, 1910. Bardwell, 1st Tuesday in December, 1910.

Then followed the president's address in which among other interesting points he especially called attention to the several bills which the State Board of Health desired to have passed at this sitting of the legislature and urged every member to help accomplish the same.

The society then adjourned.

H. T. CROUCH, Secretary.

Carter.—The Carter County Medical Society met at E. K. Junction and elected the following officers for the ensuing year 1910: G. B. O'Roark, President; C. L. Hudgins, Delegate and H. B. Fraley, alternate delegate and D. B. Wilcox, Secretary and Treasurer.

An open session was called to meet in Grayson on the second Tuesday in May for laymen to participate in and help stamp out disease.

D. B. WILCOX, Secretary.

Christian.—The Christian County Medical Society met in regular session at 11 a. m. Those present: Young, Harned, Edwards, Beazley, Ketchum, Stites, Sandbach, Lacy, Barker, Tate, Gates, Keith and Rice. This was the meeting for the election of officers. The following were elected: B. A. Caudle, Newstead, President; J. A. Young, Hopkinsville, Vice-President; J. H. Rice, Hopkinsville, Secretary; T. W. Blakey, Hopkinsville, Censor; J. H. Rice and Keith were elected as delegates to the State Medical Society.

Barker, Jackson and Stites were elected as a committee to investigate the feasibility of erect-

ing a hospital in this city. There being no further business, the society adjourned.

J. H. RICE, Secretary.

Carroll.—Carroll County has seventeen physicians, sixteen of whom are members of the county medical society. We have made repeated efforts to induce the one outside brother to join us, but without success thus far. Next year we hope to report every physician in the county a member of the society.

Our society meets quarterly on Tuesday after the second Monday in January, April, July and October. The meetings have not been as well attended as they should have been, though there appears to be no lack of unity of purpose among our physicians. We need to be imbued with a greater spirit of activity and learn better the lesson of what is to be gained in an active, working, up-to-date, well-attended, county medical society.

B. L. HOLMES, Secretary.

Cumberland.—The Cumberland County Medical Society met on its regular day in the office of W. C. and Oscar Keen, and elected the following officers for the year, 1910.

H. L. Cartwright was elected President; Oscar Keen, Secretary; W. C. Keen was elected a member of the Board of Censors, taking the place of A. L. Sharp, and Oscar Keen was elected delegate to the next annual meeting of the Kentucky State Medical Association.

Most all the members were present and we had a good meeting; several cases were reported by Drs. Keen and Cartwright, which were freely discussed by all the society.

This has been rather an off year for our society, but every member present pledged himself to do all in his power to make a good society during the next year, and we think that we will be able to get most every doctor in the county to join at our next meeting. After our next meeting will send the annual dues for the year 1910 together with a complete list of the members and non-members of our society.

OSCAR KEEN, Secretary.

Daviess.—The Daviess County Medical Society met at the City Hall, Owensboro, on Tuesday, December 21. Thirty-seven physicians were present. Transacted routine business, and elected the following officers to serve the next year: President, C. H. Todd; Vice-President, R. N. Filiatreau, of Knottsville; Secretary-Treasurer, J. J. Rodman; Delegate, J. J. Rodman; Censor, W. E. Irvin.

The society adjourned to the Rudd, where the city society had had prepared a bountiful banquet. We had a very pleasant evening. Toasts were responded to by M. A. McDonald and R.

N. Filiatreau, and by Hon. W. T. Ellis and Rev. E. S. Fitzgerald.

J. J. RODMAN, Secretary.

Fulton.—The Fulton County Medical Society met in regular session at Cayce, Oct. 9, 1909. After eating a nicely prepared dinner, the society met in the Masonic hall at 1 p. m. The following members were present: P. B. Curlin, J. M. Hubbard, J. R. Luten, P. A. Moore, S. Cohn, J. M. Alexander, C. A. Wright, A. J. Turney.

President J. W. Naylor being absent, the society was called to order by S. W. Luten. The minutes of last meeting read and approved. There being no paper on program, the session was devoted to report of cases.

S. Cohn reported a case of typhoid fever of unusual note.

J. M. Hubbard reported case that he amputated the arm at the middle lower third of humerus, the patient being 96 years of age, with happy results. The patient took the anesthetic nicely.

P. B. Carlin reported a case of malaria fever which was very interesting.

C. A. Wright was then elected delegate to represent this society at the Kentucky Medical Association, which met in Louisville October 19-21, with S. W. Luten and S. Cohn as alternates.

Next was the election of officers for the incoming year. R. W. Naylor, President; P. B. Carlin, Vice-President; C. A. Wright, Secretary and Treasurer.

There being no other business of importance the society adjourned to meet in January, 1910.

C. A. WRIGHT, Secretary.

Fulton.—The Fulton County Medical Society meets now regularly every three months at Cayce, Ky., which is the half-way meeting point of the county.

We have now in enrollment every physician in the county, with the exception of about ten. Hope to have them at our next meeting.

S. COHN, Secretary.

Franklin.—Met in the office of Drs. Williams & Mastin. Those present: Drs. Moore, Ginn, J. W. Hill, Jr., Mastin, Williams, Minnish, Demaree and Heilman.

Minutes of the previous meeting read and approved. Pathological specimen presented by Dr. Ginn discussed generally and pronounced to be a degenerated placenta, resulting in the rupture of tube, in tubal pregnancy, occurring only a few hours previously. The diagnosis was obscure and was satisfactorily determined. Was asked to report at next meeting results.

Application for membership presented by Drs. Heilman, Ross and Forman. Was referred to

Board of Censors for final action at next meeting. Adjourned to Nov. 1, 1909.

U. V. WILLIAMS, Secretary.

Hart.—The Hart County Medical Society met in Munfordville, Dec. 7, 1909, with the following members present: J. J. Adams, W. F. Nichols, H. C. Bruner, L. E. Comstock, D. C. Donan, Jr., Chas. H. Moore and J. H. Hester.

The election of officers for the ensuing year resulted as follows: W. F. Nichols, President; Chas. H. Moore, Vice-President; Chas. K. Beck, Secretary and Treasurer; L. E. Comstock, Delegate; J. J. Adams, Alternate; D. C. Donan, Jr., Censor.

We had a very interesting meeting. Please send in addition to the doctors you have been sending the Journal: L. E. Comstock, Horse Cave; J. H. Clark, Bonnieville, as they have paid for 1910.

J. H. HESTER, Secretary.

Henderson.—The Henderson County Medical Society held its annual business meeting at Y. M. C. A., December 13, 1909. There were present, Drs. Busby, Ligon, Dixon, Dunn, Poole, Floyd, Neel, Letcher, Quinn, Griffin, Moseley, Branson, Torwood, Graham, Hancock.

The following was presented by D. O. Hancock, and on motion adopted:

The educational work that is being done at present on the subject of tuberculosis in teaching people its infectious and contagious nature is bearing fruit. The result is that as a matter of self-protection knowing people keep aloof from consumptives. Thus, ostracised, they are neglected and often suffer in body and mind. A crying need is thus presented to the charities and humanity of those who are well. We must provide for the unfortunates. They are not admitted to our hospital. There is no provision for them at the poor house. They should not be admitted to these institutions. **We must have an inviting and serviceable place for them where they will not be humiliated but cheered and made as comfortable as possible while they are slowly but surely gliding into the Great Beyond.**

Secondly, nothing is more fixed, definite, unquestionable and settled beyond controversy than that consumption is contagious, infectious; that persons living in the same house with consumptives or nursing them, or coming in contact with them in public places or even frequenting offices, cars, etc., where consumptives have been, persons thus exposed contract consumption and likewise die of it. **Our duty to well people, that consumptives be separated from us, is greater than our duty to care for these consumptives themselves.**

We must have an inviting and serviceable place for consumptives where they can be sep-

arated from well people and not go about breathing death in our nostrils. And this place must not be a poor house, but a home.

Third—Consumption in certain stages is curable—as surely so in Kentucky and in Henderson county as in Florida or New Mexico or California or elsewhere. Many people have not the money to go elsewhere. Others elect to remain at home and die rather than be separated from loved ones and home and business. We have a number of beautiful sites in two to four miles of Henderson, high and convenient and ideal for a tubercular sanitarium. A few thousand dollars and our State appropriation for this purpose would provide us a well-equipped place for the scientific treatment and cure of these unfortunates who are now allowed to go on to incurable conditions and certain death.

We must have an inviting and serviceable place for the treatment and cure of consumption:

In summary: We must care for our consumptives. **Humanity demands it.**

We must separate consumptives from well people. Humanity demands it.

The foregoing sentiments and statements of facts were presented to the Henderson County Kentucky Medical Society at its annual meeting, Dec. 13, 1909, and approved and ordered promulgated through the local papers, hoping that the public generally will consider seriously the matter therein contained and seek and find a way to establish such institution in our county in the near future.

This society also endorses and invites the favorable consideration of the general public of the report of the Anti-Tuberculosis Committee of the Kentucky State Medical Society at its meeting in Louisville in October, 1909.

The Henderson County Medical Society also endorses the Henderson Anti-Tuberculosis Association and commends most heartily the work of this association and pledges its warm co-operation in the work to be done in the way of education of consumptives and the public at large not only to protect themselves and their families, but the people generally from the contagion of this dread disease.

E. L. BUSBY, President;

D. O. HANCOCK, Secretary.

The annual election of officers resulted: E. L. Busby, President; W. M. Floyd, Vice President; D. O. Hancock, Secretary and Treasurer; P. Ligon and M. C. Dunn, delegates to Lexington meeting.

Liberal discussion was given to the matter of program for year 1910. By motion, each member was requested to hand in three subjects on which he will prepare papers during the year, 1910. They are to be given the committee on program within ten days from which an outline of work for the year will be prepared.

The annual banquet will be held Dec. 27, '09. Drs. Forwood, Neel and Griffin, committee.

One dollar per member was asked to be paid to Y. M. C. A. for courtesies during the year, 1909.

D. O. HANCOCK, Secretary.

Harrison.—The Harrison County Medical Society met December 6, at the Harrison Hospital with the President, W. B. Moore, in the chair. There were present, Drs. Glifford, J. E. Wells, W. B. Moore, Martin, N. W. Moore, Rees, Van Deren, Petty, Smiser, Swinford, Givens, Garr, Musselman, J. W. Boyd, Best, Patterson and McDowell.

A copy of a proposed bill to regulate the sale of opium prepared by the Kentucky Pharmaceutical Association, was read and approved by the society.

C. M. Clifford reported an epidemic of more than a dozen cases of jaundice accompanied by fever, headache, pains in the back and limbs, and considerable gastro-intestinal disturbance.

Jos. Martin reported the result of examination of a specimen of sputum picked up in a public building, containing Klebs-Loeffler bacillus, pneumococcus and tubercle bacillus.

W. H. Carr reported a case of occiput posterior successfully delivered with forceps.

N. W. Moore exhibited a cerebral tumor removed postmortem. The patient was before the society several months ago and had refused operation.

N. W. Moore brought a patient before the society, a boy 18 years old who had been sick two years with a variety of symptoms changing from time to time, such as articular pains, deafness, dimness of vision, sciatica, diarrhoea, stiff knee. Diagnosis, hysteria.

Joseph Martin read a paper on "Ethics of Medical Consultation." Hon. C. M. Jewett read a paper on "Privileged Communication." The following officers were elected for 1910: C. M. Clifford, President; H. T. Smiser, Vice President; M. McDowell, Secretary; B. B. Petty, Treasurer and Censor for three years beginning January, 1910.

M. McDOWELL, Secretary.

Lincoln.—At the lonely hour of midnight, on August 20, 1909, the spirit of Dr. L. B. Cook took its flight to Him who gave it and left the pain-wrecked body, to be viewed upon earth for the last time by a broken-hearted companion, grief-stricken children, brothers and sisters, and a multitude of sorrowing friends.

Be it Resolved, In the death of Dr. Cook, the medical profession has lost one of its ablest and truest members, the home a kind, loving husband and indulgent father, the community a most faithful, efficient servant, society its best example and the church a true Christian.

Resolved, That these resolutions be spread upon the minute book of this meeting, and sent to the Journal, also Interior Journal for publication, and family be furnished with copy of same.

E. J. BROWN,
J. F. PEYTON,
H. REID,

Committee.

Marshall.—The Marshall County Medical Association met in the office of Drs. Stilley and Jones October 13th, 1909 with the following members present: T. C. Coleman, C. E. Clayton, E. G. Thomas, B. T. Hall, L. E. Jones, V. A. Stilley, W. T. Little, L. L. Washburn, C. E. Howard.

On account of the secretary being sick and unable to attend, V. A. Stilley was appointed secretary protem.

L. L. Washburn quized on Puerperal Eclampsia. The quiz was thorough and was enjoyed by all present.

B. T. Hall read a paper on "Nothing New." The paper was most interesting and well enjoyed.

J. R. Skinner was elected a member of this society.

V. A. STILLEY, Secretary Protem.

Marshall.—The Marshall County Medical Association met November 10, 1909, in Benton in the office of Stilley & Jones and was called to order by Vice-President L. L. Washburn with the following members present: C. E. Howard, L. L. Washburn, T. C. Coleman, S. Keffer, C. E. Clayton, L. E. Jones and A. J. Bean.

L. E. Jones' subject—"The Reasons why we Should Attend the Marshall County Medical Society"—was a good practical talk and enjoyed by all members present.

C. E. Clayton read a paper on Pertussis, which was an excellent paper and thoroughly discussed by the society.

A. J. BEAN, Secretary.

Nicholas.—The Nicholas County Medical Society held its last meeting and elected the following officers: President, B. F. Reynolds; Vice-President, George B. Spencer; Secretary and Treasurer, J. R. McIntire; Censors, J. C. Maartin, 3 years; H. H. Buntin, 2 years; J. M. Wells, 1 year. R. J. R. Tilton was elected delegate to the State Medical Society. Meetings will be held the second Thursday in each month at the Maccabee Hall.

J. R. MCINTIRE, Secretary.

Pendleton.—The Pendleton County Medical Society held its last meeting of the year at the office of H. C. Clark Wednesday morning. The election of officers held in November was rati-

fied. Drs. Blackerby, McKenney and Clark, members of the health board, had their attention called to matters effecting the public health, and the Society passed strong resolutions condemning itinerants who are peddling spectacles and using the cheapest kind of goods at enormous profits; also representing to non-suspecting country people that Dr. Yelton sent them, or Drs. Wilson, Clark or McKenney, as soon as they find out which doctor does their practice. There is not a doctor in the county who is an eye specialist. There are physicians who examine and prescribe medicine and glasses for eyes that are diseased, and if there were no diseased condition of the eyes nothing is needed; if they are diseased you had better see your doctor, as you get but one pair of eyes in this life and you had better take care of them. Every member present but one.

After the business meeting the physicians repaired to the commodious residence of Dr. H. C. Clark where a sumptuous banquet awaited the doctors and their good wives. The table was arranged in T shape and Dr. Clark sat at the head of the banquet board and acted as toast master. Dr. J. H. Barbour, the sage of the fraternity of this county, returned thanks.

The banquet was given by the Falmouth physicians in honor of the members of the Society. The wives of the city physicians were responsible for the delicious menu which was complete in every point.

The toastmaster introduced the several speakers. Those who responded were: Mrs. T. C. Nichols, on "The Doctor's Wife." Dr. S. M. Hopkins and Dr. J. Edwin Wilson.

Dr. W. H. Yelton introduced a resolution voting the Falmouth physicians hearty thanks for their most liberal hospitality.

Miss Lucy Clark rendered most delightful music on the violin and piano during the banquet hour.

Handsome hand-painted place cards, the work of talented Miss Mary Wilson, were used to designate each guest's place at the table. On the opposite side of the card was the following toast, written by Miss Mary Hope Clark for the occasion, which was sung at the close of the feast:

The Doctor.

(Tune—Auld Lang Syne.)

Come, drink a toast now ere we part,
A toast in sparkling wine,
To one good, brave and loyal heart
That loves all human-kind.

CHORUS.

Here's to the doctor, bless his name
And love him; 'tis his due;
Though humble and unknown to fame,
His life is spent for you.

A friendship rare he freely gives,
And gives his service, too,
In lowly ways, he joyfully lives
For the good that he can do.

CHORUS.

In helpful bond, may hand clasp hand;
The cords of love grow strong;
And may the lives, so divinely planned,
Be happy, full and long.

The following was the menu:

First Course.

Oyster cocktail. Wafers.

Second Course.

Ham, turkey, gravy, potatoes, peas, oysters,
pickles, light bread, corn bread, cran-
berry ice, jelly, coffee.

Third Course.

Fruit salad. Wafers.

Fourth Course.

Ice cream, maraschino cherry, cake,
Cheese, Coffee, Wafers.

Those seated at the tables were:

Dr. J. H. Barbour, Dr. and Mrs. W. H. Yelton, Dr. and Mrs. John E. Wilson, Dr. and Mrs. J. Edwin Wilson, Dr. and Mrs. N. B. Chipman, Dr. H. C. Clark, Dr. and Mrs. W. A. McKenney, Dr. and Mrs. K. B. Woolery, Dr. O. W. Brown, Dr. and Mrs. M. A. Yelton, Dr. and Mrs. S. M. Hopkins, Dr. J. F. Daugherty, Dr. and Mrs. T. C. Nichols, Dr. and Mrs. C. H. Kendall, Dr. J. A. Caldwell, Dr. and Mrs. P. N. Blackerby, Dr. and Mrs. N. H. Ellis, Dr. V. E. Smith, Dr. A. L. Beckett, Dr. P. E. Blackerby, Dr. George F. Henry, Dr. W. P. Hill, W. J. Shonert, Mrs. C. F. Crecelius, Misses Louise Barbour, Amy Graham, Mary Hope Clarke, Viola Moore and Mildred Clark.

H. C. Clark spoke on "What the Society Has Done and Has Failed to do" as follows:

It is fitting that this meeting include in its number the ladies that they safeguard the doctors lest we get at this, the last meeting of the year. We are honored by your presence; it only required your help to make it a success. Your grace added to our dignity and the year's work closes in a blaze of glory.

Looking back a few years, we find a disorganized profession in the county. This is the first medical society that ever existed in our county. At its birth it was a puny child, scarcely able to live, and when a year old it stood upon wobbly legs; it has lived, having successfully passed through all the diseases incident to childhood. It stands today upon strong legs and is enjoying itself in full vigor of mature manhood, an honor to the county.

In the year closing with this meeting it has had on its program forty-one subjects, and papers have been read on every one, and they have been thoroughly discussed, opinions ex-

changed and in addition to this, we have had clinical cases reported by every member.

We have a just right to feel proud of our improvements. In the beginning, we had for a time but two members, and we held on like grim death until there was an awakening, and the reorganization took place, and today we have 21 members—all awake to the importance of the benefits to be derived from association work. We have pulled open wide the throttle and are going under a full head of steam.

Since our re-organization, we have not missed holding regular monthly meetings, and some of our members have to travel from 12 to 15 miles to get here.

I, as your retiring President, am proud to say I have been present at every meeting, and I believe the same can be said of every presiding officer before me.

The physicians have been improved professionally and socially. Today we have a united profession and in each member a sympathizing friend. The county can boast of having a better equipped lot of physicians than ever existed before this day.

To the laity, I would say, "Be good to your doctor." He does not give his services for his money alone, for if it was only a money consideration he could make more if he worked as hard at any other business, and have the nights to sleep as you do. He does more for the money he gets than any other professional man in the community. He is flesh and blood like the rest of you, and loves appreciation, and if it was not for the fact that now and then he receives the graceful acknowledgement of an appreciative patient his zeal would fail; his hope depart and his heart break under the strain. The physician, I am happy to say, enjoys the warm and abiding friendship that exists between himself and the people more than any man in the community. He is entitled to it; he deserves it.

To the society I would say, be prompt in attendance, keep up the interest. He who has put his hand to the plow, let him not look back.

Neglect will kill anything, and it will kill the society. It will kill your mind and your body.

I have looked in vain to find anything we have failed to do which we could have done for the further benefit of our society in the year closing.

To the few remaining outside, I would say, we have insisted on your joining us; and once more, "come thou and go with us and we will do thee good." There is no more honorable profession. Continue to hold up its dignity and

"When thy summons comes, thou go not like the Quarry Slave at night—scourged, but sooth-

ed by an unfaltering trust. Approach thy grave like he who wraps the drapery of his couch about him and lies down to pleasant dreams."

T. C. Nichols' talk on "Doctor to Self:" There is so much that should be said on this subject that it is difficult to decide what to say and what to leave unsaid. Every medical man discovers sooner or later that the practice of medicine has two sides—a greater scientific side and a lesser, but important personal side, and that to fight the battle of life successfully, it is necessary for even the most scientific physician to possess a certain amount of professional tact and business sagacity.

You should, as a man and as a physician, found your expectation of success on your personal and scientific qualifications and keep what is honest, just and pure foremost in your mind. Establish a regular professional and business policy at the beginning. Be at your post as punctually as possible and be courteous to all kinds of people with who duty or accidents bring you in contact; but while you treat all men as brothers and all women as sisters, beware of talking too freely, and do not handshake and harmonize with the coarse, ignorant and unappreciative indiscriminately, for undue familiarity shears the thoughtless physician of both influence and prestige. Even though you be ever so poor, let your garb show genteel poverty, for as a physician your dress, manners and bearing should all agree with your noble and dignified calling.

Make your profession the chief object of your life. While it is perfectly just and proper to seek reputation by all legitimate means, and to embrace every fair opportunity to make known your attainments, avoid all base intriguing and sensational scheming to obtain practice.

Remember that medicine is a vast mass of facts and that he who best interprets and applies these facts is the best physician, and that skill in practice consists not only in diagnosis, prognosis and prescribing medicine, and knowing what can and cannot be done, but it is the combined result of all the powers that the physician legitimately brings into the management of cases. In other words, the skillful use of drugs is but one of many elements that make the unit of medical skill.

You must study. Chasten every thought, weigh every word and measure every phase of your deportment, especially that which concerns the fair fame of woman—and let your conduct toward all females be refined and respectful.

One of the great pleasures at the banquet was to hear **J. H. Barbour** on "Medical Ethics." For one of his age it is remarkable how strong his mind is, what an entertaining speak-

er he is and a finished scholar of the old school. His statements are clear and to the point. He blazed the way for doctors, who will do well to emulate his life.

Russell.—The regular annual meeting of the Russell County Medical Society was held at Jamestown, Dec. 13, 1909. There being no quorum on account of bad roads and inclement weather. Those present paid dues for 1910, as follows: John D. Combest, J. B. Scholt. The present officers agreed to hold their various offices until their successors were elected.

The names of the old officers are as follows: J. B. Scholl, President; W. G. D. Flanagan, Vice President; John D. Combest, Secretary and Treasurer; J. B. Scholl, Delegate.

The meeting adjourned to meet the third Monday in February, 1910.

JOHN D. COMBEST, Secretary.

Simpson.—The Simpson County Medical Society met in regular session Tuesday, Dec. 7, and elected the following officers: President, W. London; Vice-President, W. H. Williams; Secretary-Treasurer, M. M. Moss; Censor for 3 years, J. R. Claypool. The present outlook for a good society for the next year is somewhat better than at this time last year, and we hope by some changes in the program to make a better showing this year.

The officers retiring will, I am sure, do all in their power to make it a success. The dues for the incoming year have not all been paid and as soon as this is paid, I will forward same to you.

M. M. MOSS, Secretary.

Trimble.—The Trimble County Medical Society met in Milton at Dr. J. Cohn's office. This was the business meeting of the year. After the reading of the minutes, the committee on purchasing drugs report was heard and continued. The committee on open meeting report a correspondence with Dr. South, of Bowling Green; Dr. Rosalie S. Morton, of New York, and B. F. Zimmerman, of Louisville. The December open meeting at Bedford was postponed to February. Milton will have the open meeting in January.

Recognizing the importance of valued assistance, confidence and friendship between the Dental and Pharmaceutical factors and the medical profession, L. D. Contri moved that the druggist or pharmacist residing and following their respective avocation in the County of Trimble should be made honorary members of the society. The motion was seconded and adopted. Thus, J. L. Wooten and W. Bell, dentists of Bedford, and Chas. Betts, of druggist and Pharmacists, the former of Bedford,

and the latter of Milton, became honorary members of the society.

The election of officers for the coming year, 1910, resulted as follows: J. W. McMahan, of Bedford, President; J. Calvert, of Milton, Vice-President; L. G. Contri, of Milton, Secretary-Treasurer; W. F. Hancock, Bedford, M. C. Conner, Bedford, C. C. Harwood, Milton, Censors. Delegate to the Kentucky State Medical Society—L. G. Contri, of Milton.

After the election the society adjourned to the residence of Dr. Contri where they enjoyed a turkey dinner. Society adjourned to meet in Bedford on Monday, January 24.

L. G. CONTRI, Secretary.

Wolfe.—At a meeting of the Wolfe County Medical Society December 6, 1909, the following business was transacted: S. S. Swango was made secretary pro tem. Program made out and first Monday in each month set for the society to meet in the town of Campton at 1 o'clock. Dues paid by S. S. Swango for the year 1910.

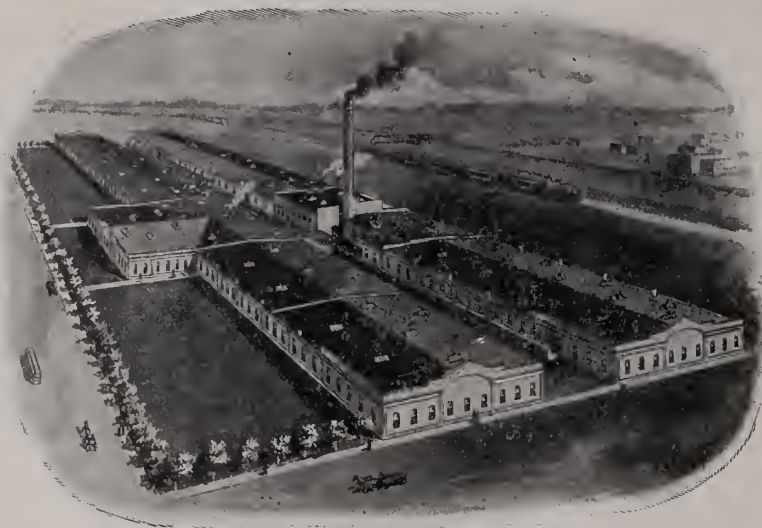
S. S. SWANGO, Secretary Protem.

Woodford.—Out of 23 practicing physicians in the county, 19 are members of the county and state medical societies with dues paid. Two of remaining have paid county dues. One is an asthmatic and does not practice. When program is arranged for county meeting, at least one of the members is always present with paper. Attendance usually from 8 to 12 of nineteen present. Little or no enthusiasm for Medical Defense or for Old Physician's Home and without a secretary, society would do little good. More enthusiasm is needed.

S. M. STEDMAN, Secretary.

Operation for Uterine Prolapse.—Heidenhain gives an illustrated description of the stretching apart of the cleft between the levator ani muscles in childbirth, of the resulting incompetency of the supporting floor of the pelvis, and the means to remedy it by closing up the stretched cleft to restore normal conditions.—Archiv fur Gynaekologie.

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SURGICAL AFFECTIONS OF THE LOWER JAW WITH REPORT OF CASES.

BY J. GARLAND SHERRILL, LOUISVILLE.

While our remarks will be especially referred to tumors of the lower jaw, we will also include in the discussion the inflammatory conditions resulting in necrosis and demanding operative interference. The pathological changes, symptoms and diagnosis of necrosis of the jaw are so well known to the members of this society that it only needs casual mention.

Inflammations and tumors of the jaw are usually first met in the practice of dental surgery, and it is only in a later stage that they are referred to the general surgeon. It is owing to this fact that we should urge those practitioners who first meet with these conditions to make a very careful study of their clinical history with a view to making early diagnosis when operative interference is simple, safe and productive of the very best results. We would especially urge that the most careful attention be paid to all conditions in which beginning tumor formation may be suspected. After a few observations, except in the most obscure cases, the diagnosis should be sufficiently clear to permit the formation of an opinion regarding its character. In some cases the diagnosis is extremely difficult, if not impossible.

Formerly operative interference in lesions

of the jaw were attended with a high rate of mortality, but with the development of surgery these operations have so diminished in gravity that they are no longer classed among the most serious procedures. Results, too, from operative interference in this region are much better than they were formerly. My own results have been especially good. The only operative death that I have had in these cases was a man suffering from a cancer involving both the upper and lower jaw. This case will be recorded below, the patient dying of pulmonary embolus on the third day after the operation.

I have selected a few cases from my records which are illustrative and somewhat instructive:

Case 1.—Carcinoma of the upper jaw in a woman of over sixty years of age, who came to us presenting a history of having had two teeth removed for pain in the jaw. Following the removal of these teeth a fungus mass protruded from the sockets. This mass continued to increase in size; the palate became prominent, and a marked protrusion occurred on the cheek. In making this operation a tracheotomy was done and the operation completed by means of a Ferguson incision, which extends along the lower margin of the orbit down the side and around the ala of the nose to the median line, thence down through the lip. The skin is then retracted from the growth, and the attachment of the superior maxilla to the molar bone is severed with a chisel or saw. The orbital

plate is left, unless it is involved with the growth and is separated from the bone proper by the chisel. The attachment of the nasal bone is also cut with pliers and the maxilla is separated from its fellow of the opposite side in the same manner. A pair of large bone forceps then enables the operator to separate the bone from its posterior attachments.

In our recent work this operation has been simplified so that it is unnecessary to use tracheotomy or make any preliminary ligations of the large vessels of the neck. The best position for the operation is that of Rose, with the head lowered so that the blood will not accumulate in the pharynx.

This patient lived in fair comfort for six months before a recurrence was noticed.

Case 2.—In the fall of 1907 a very aged colored man was referred to me by Dr. Ray with carcinoma of the upper jaw which was very far advanced, giving the patient a great deal of pain and discomfort and having a very foul odor. It showed an infection, with suppuration of the tear sac. Dr. Lederman assisted me in this operation, the patient having been given but very little hope for any material benefit. He withstood the operation well, but lived only a few months after it was performed, recurrence being very prompt.

Case 3.—A gentleman of sixty-five years of age, referred to me by Dr. Johnson, of Utica, Ind. This patient had an extensive carcinoma of the upper jaw, extending downward and involving the posterior portion of the lower jaw. The case was so hopeless that I declined at first to operate upon him, but he was very anxious to have some effort made to prolong his life and I reluctantly consented to attempt its removal. A Ferguson incision was made as for an operation upon the upper jaw, and an incision was made from the middle of the lower lip downward extending backward under the lower jaw. The superficial structures were dissected free and both jaws were removed. The operation was completed with greater ease than I had anticipated. Patient left the table in good condition; on the following day was very bright and gave every prospect of a recovery. On the third day after the operation, however, he was suddenly taken with dyspnoea and other evidences of a pulmonary embolus, which caused his death.

Case 5.—Female; white; thirty-five years of age. Had suffered for eleven years from a slowly growing tumor in the upper jaw, painless save for a slight neuralgia of the temple. The growth had recently been more rapid. About three weeks before I saw her a small red spot appeared upon the cheek.

and ulceration is now present. A diagnosis of sarcoma of the jaw was made and the operation done as prescribed above on November 14, 1903. She died of an intercurrent trouble in the fall of 1908, having had no recurrence.

Case 5.—Female; white; twenty-seven years of age. Came to me May 17, 1905, presenting a sarcoma about the size of a walnut which had commenced six months previously as a slight swelling just above the left canine tooth. It had grown very rapidly and was spreading along the alveolus toward the nose. The entire alveolar portion of the left superior maxilla, the nasal process, and a large part of the body with the palate process were removed. The upper and part of the latter walls of the antrum remained in situ. The patient recovered without incident and was later fitted by Dr. J. W. Clark with a very satisfactory mechanical appliance which prevents any noticeable deformity.

Case 6.—Colored woman, twenty-five years of age; referred by Dr. Ray. Presented with a small growth just above the alveolus of the upper jaw. This growth was clearly cysted, and a diagnosis of dentigerous cyst was easily made. The operation for its removal was not extensive, and the cavity from which it was removed was packed with gauze until healing took place.

Case 7.—Miss D., white; eighteen years of age; referred by Dr. Flynn, Jeffersonville, Ind., in 1898. Patient presented a soft, rapidly growing tumor of the left upper jaw. The bone overlying the tumor was greatly thinned, so puncture with a needle was readily made. There was a history of an injury some time prior to the development of the growth, but there was some doubt as to connection with the same. A diagnosis of sarcoma was made, and she was advised against operation.

I saw her again on the 13th of June, 1903, and found the growth about twice as large as at my previous examination. It was almost as large as an orange, and surrounded with quite hard smooth bone. There was no evidence of a tendency to infiltration. She said that during the past year the growth had been stationary. Since I saw her before she has had anti-streptococcal serum, and later was treated by a paste applied to the skin over the growth; and she has also been treated by the X-ray. The only effect of these measures was the production of a large ugly scar.

We were forced to change our diagnosis from sarcoma to that of some benign growth. On June 27, 1903, the upper jaw was removed and we found the condition to be a

cystoma (dentigerous cyst) with a misplaced tooth in the sac of the cyst. Patient made a good recovery and still remains well. I censured myself very greatly for having made the mistake in diagnosis, which resulted in her face being scarred by the useless efforts made for her relief.

Case 8.—H. M., female; colored; thirty-three years of age. Came to me April 19, 1898 with a history of a growth on left lower jaw which had existed for one year, dating from the sore tooth. I found the swelling about the size of a hen's egg, firm, marked on the upper surface by a deep groove for the teeth of the upper jaw. This evidently caused a spreading of the upper portion. She had suffered comparatively no pain. The tumor involved the second bicuspid and the first molar, also part of the first bicuspid. A diagnosis of sarcoma was made.

On April 21st, the tumor and that portion of the jaw embracing it were removed through the mouth. This was done at the urgent request of the patient, who disliked very greatly to have a scar, and was contrary to my better judgment because of the danger of recurrence, although we were apparently enabled to get all the diseased tissue. About one year later she returned with a recurrence in the ramus, and submitted to an external incision for its removal. She recovered and is still living and in good health.

Case 9.—Female; white; six years of age; referred by Dr. W. L. Starr, New Albany, Ind. Came to my clinic at Kentucky University. Following a severe attack of typhoid fever she suffered from noma, and had marked loss of tissue of the cheek, and after recovery from this she developed a necrosis of the lower jaw. One-half of the lower jaw was removed entirely, but the process continued and later the other half was removed. She made a remarkable recovery, and developed a very presentable jaw with very little deformity. This case shows the remarkable reparative power present in young people.

Case 10.—Mr. J. S., aged 50, was referred to me about two years ago by Dr. Flynn, of Jeffersonville, Ind. A year previously he had been in a railroad accident and sustained a fracture of the jaw. This occurred in South Carolina. He worked there for three months and then came to this section of the country on a visit and, as he was still having trouble, he was treated there until I saw him. It was very easy to make diagnosis of necrosis of the jaw; a number of pieces of bone had been removed through the mouth before I saw him. When I examined him I found the loose portion of the bone to be perhaps an inch or more in length and half an inch in

width, and it was very easily lifted out of the periosteum with a pair of ordinary haemostatic forceps. Several times this was done, taking out small pieces of bone each time, and I believed I could get it all out that way without subjecting the patient to operation. He had, as I recollect, several small sinuses under the jaw leading to the site of the lesion. One day I saw him in Jeffersonville, in Dr. Flynn's office, and found another large piece of bone protruding which I thought I could remove with forceps, the same as the others. I found, however, that it was too closely attached, but by that time I had gone so far that it was necessary to do partial extirpation of the jaw in Dr. Flynn's office. The patient was given an anesthetic, and before I had finished I had taken away a large portion of the jaw. At the present time, two years later, he has simply a shell of bone extending from the symphysis around to the angle of the jaw.

From my experience in this case I would advise you to not attempt an operation of this magnitude without being absolutely sure of your ground. I felt positive that I could get this piece of bone out as I had the others, but the hemorrhage was great and it was necessary to give him anesthetic and make an incision to get that last fragment out.

Case 11.—Female; white; thirty years of age. Presented a small tumor on the alveolus of the upper jaw. Diagnosis of fibrous epulis was made and operation suggested (1906) and declined. The patient is still living, without any marked increase in the growth.

These cases appear to us to show that mortality following operations upon the jaw at present is very slight, and that the final results are usually good with the exception of carcinoma. So far, we have been unable to prevent a recurrence in any case of carcinoma. They also show that, contrary to the general idea, there is very little deformity resulting from these operations.

DISCUSSION.

Irvin Abell: Dr. Sherrill has given us a most interesting and instructive paper.

One remark was made in discussing fractures of the jaw that I think is equally applicable here; that of all parts of the body upon which we may operate and secure excellent union, it is in the lower jaw, presumably on account of the exceedingly abundant blood supply. The case mentioned by Dr. Sherrill of the little girl from whom he had removed practically all of the lower jaw on the right side, exemplifies this most beautifully. Her age, the remarkable blood supply, and the preservation of the periosteum all favored the formation of a fairly

good sized remus of the jaw on that side, giving quite a good form to the lower part of the face, a thing she would have missed entirely had the periosteum been destroyed or had she been much older.

Some points brought out in the report of cases and particularly in the remarks upon them, are, I think, extremely important.

First, the separation of benign and malignant cases. The error Dr. Sherrill made in one of his cases has been a very frequent one; namely, that of mistaking a dentigerous cyst for a malignant growth, particularly sarcoma, and many instances in which the jaw has been sacrificed under such a belief have been reported. The operation, particularly in the early stages, is one of simplicity, especially in contra-distinction to that necessary to remove a malignant growth. The essayist's comments on the necessity for early diagnosis of malignant cases, and the separation of the benign from the malignant, are the really practical points covered by the paper, though there are many other important ones.

J. B. Richardson, Jr.: Dr. Sherrill stated that, in his later work, he has discontinued the administration of anesthetic through the tracheotomy wound, and I would like to ask him why he discontinued it. I would also like to ask him what anesthesia he uses and the method of administration. It seems to me that the technique in these cases would be more nearly perfect, in that it would be more cleanly, if anesthesia were administered through the tracheotomy wound. I would also like to ask Dr. Sherrill if he has ever used it in any of his cases.

J. M. Ray: Most of the cases of this kind that I have seen have been malignant, starting primarily in the antrum of Highmore. I have many times been able to diagnose malignant disease in the antrum by protrusion of the growth into the nose.

In regard to the operation, two or three years ago, while in New York, I saw Dr. Bodine remove the jaw in a case of this kind. He operated without doing tracheotomy and with the patient's head in the Rose position. He exposed the carotid artery and put a rubber band around it, and while taking out the jaw, he pulled on the rubber band, stopping the circulation in the carotid. After removal of the jaw he cleaned out the cavity pretty thoroughly, packed it tightly, removed the rubber band and closed the wound. In this way the hemorrhage was controlled nicely. I had seen cases operated on previous to that for malignant disease in which the hemorrhage was very profuse, and in those cases I do not believe the surgeon succeeded in getting out all the growth because of the great amount of hemorrhage. By closing the artery with a temporary ligature the hemorrhage can be controlled and in that way we can

be more certain of getting out the entire growth than by attempting to do it rapidly with the blood as profuse as it is in these cases.

I have seen a number of cases of necrosis of the upper jaw in children that were apparently originally diseases in the antrum of Highmore, in which perforation occurred along the lower margin of the orbit, and large pieces of bone were extruded. I mention this in order to call attention to something I saw during the past summer while in Berlin. Epstein, who has a reputation as a paraffin injector, lifts up this security this method. He uses injections of paraffin with very beautiful cosmetic results. He injects the paraffin with a syringe with a screw attachment and uses the hard paraffin. I saw one case which had been so treated a few weeks before, and the cosmetic effect was almost perfect.

J. Garland Sherrill, (closing): First, answering Dr. Richardson's query in regard to anesthesia, I will say that I have uniformly used chloroform in these cases. Anesthesia is carried to the point where we wish to begin operation, and it is only occasionally that we need a little more anesthetic during the operation. It is not desirable to have the patient so he cannot cough out any blood which may accumulate in the back part of the pharynx, so I have always used chloroform.

In regard to Dr. Richardson's query as to rectal anesthesia, this recalls to my mind an experience which he and I had and which I did not include in the paper. In one family there were two children, a boy of 15 and a girl of 14, with clefts of the hard palate, and we operated on both of them under rectal anesthesia. We operated first on the boy, who stood the anesthetic very well, and we got very good results so far as the operation was concerned. However, after the operation he had a slight amount of irritation of the rectum from the ether, but not enough to deter us from operating on his sister the next day. We completed this operation in a much better way, as we thought, than we had in the boy. When the girl went off the table, however, she had considerable tenesmus and straining, and probably passed a little blood. I will say that during the operation the container the ether was tilted to one side by the struggles of the patient, and we thought at the time that perhaps a little ether had been allowed to flow through the tube into the bowel, and this was probably true. The next day the patient had very violent pain in the abdomen, straining at the stool and prostration. She had so much prostration that we did not even consider opening the abdomen to correct any trouble which might exist, and she died forty-eight hours or less after the operation. I am not absolutely certain about it, but I am inclined to believe that this girl by excessive straining, caused intussusception to occur, because there was sud-

den shock. Therefore, I would be strongly opposed to rectal anesthesia, although it is possible that this little accident that occurred was not really the cause of the girl's death.

In regard to tracheotomy, I am inclined to recommend that this be not done, unless we have a very large tumor of the upper jaw which would be very difficult to extract, for the reason that tracheotomy in itself is not devoid of danger, although in my experience it has been quite successful; still, the advantage gained by it in giving anesthetic and in having absolute control of the blood by packing the pharynx, while great, is not enough to justify the additional risk to the patient. In my first case I tied off the carotid so as to be able to control the hemorrhage from the maxillary artery, but I believe, in a large majority of instances, you will not have any more hemorrhage with our present method of operating, than you would have by tying off the vessel, or by using a band as Dr. Ray has mentioned. The plan I use is to put the patient in position with the head down and the neck thrown forward, with the head lower than the body. Then dissection of the skin flap is made and haemostasis perfected. Then a chisel can be used to separate the molar portion of the bone and pterygoid attachment, and all this is done before you go into the mouth at all. Then the orbital plate is chiseled loose and that does not cause hemorrhage except perhaps a little through the nose. Then rapidly separate the nasal bones and the two palate processes, and you have practically completed the operation. As soon as the jaw bone is removed it is no trouble at all to control the hemorrhage with a pack.

DIAGNOSTIC AIDS IN BLOOD EXAMINATIONS.

By B. J. O'CONNOR, LOUISVILLE.

The science of Haematology is so intimately connected with two of the most important branches of general medicine, diagnosis and therapeutics, that no progressive medical man can afford to disregard its teachings. As the importance of the blood from a physiological standpoint is possibly greater than that of any other body tissue, so also from the pathological view we find in it numerous things of utmost significance.

Study of the blood and various experiments made therewith have shown that almost every disease, to which human nature is heir, exercises more or less influence on the character and characteristics of this fluid tissue. While many of the discoveries of the alterations which take place in the blood as a result of disease, possess scientific interest only, the majority, present intense practical value not only as aids in diagnosis and new means towards the alleviation of human ills,

but also in elucidating the important problems of immunity and immunization and other interesting pathological questions.

Although the examination of the blood does not offer by any means a panacea for all of our diagnostic ills its study affords great assistance and is almost indispensable in the differentiation of certain diseases. The findings of blood examinations, while at times pathognomic of certain disease, are usually of either simple corroborative or negative evidence and are therefore always to be considered as mere symptoms or as part of the symptom complex of the disease and are never to be considered apart from the physical signs or symptoms.

When negative findings are presented by blood examination the value thereof should never be overestimated, nor permitted to constitute absolute grounds for the exclusion of the suspected disease. Anaemia is such a frequent blood symptom that it constitutes a sign of considerable importance in diagnosis. Fortunately, anaemia is usually secondary in nature, due to some attending or preceding cause, such as the infectious diseases, various intoxications, neoplasm, hemorrhage, etc. The degree and nature of anaemia, especially when severe, is a matter which should always involve an examination of the blood. Secondary or chloranaemias are ordinarily easily recognized by the fact that the diminution in the amount of haemoglobin, the oligochromaemia, is usually more marked than the oligocythaemia, or the reduction in the number of red blood cells. The color index or the relative amount of haemoglobin to the individual red cell is about 7 or 8 tenths of the normal. A certain degree of leukocytosis usually attends secondary anaemia and the nature of this leukocytosis at times of value in suggesting evidence as to the cause of the anaemia.

Two forms of anaemia, chlorosis and pernicious anaemia are classed as primary blood diseases—a term limited in its application to disease accompanied by changes in the haemopoetic organs and of unknown etiology. In chlorosis or green sickness we find an anaemia which is characterized almost exclusively by a great depreciation in the amount of haemoglobin with but slight loss in the number of red cells and practically no change in their morphology. As a result thereof the color index in chlorosis is approximately but five-tenths.

In pernicious anaemia we have a marked decrease in the number of red cells—averaging about 1,000,000 to c.mm.—as well as in the amount of haemoglobin. The color index in this disease is greater than normal, however, since the haemoglobin is not destroyed

as rapidly as the red blood cells. The amount of hæmaglobin in the individual cell is nevertheless quite variable, being greater than normal in some cells and less in others. Poikilocytosis or decided irregularity in the size and shape of almost every red blood cell is a striking feature of the disease—as a result microcytes, megalocytes, pear-shaped, ovoid shaped cells are seen. In addition we find that nucleated red blood cells erythroblasts, microblasts and megablasts are present in considerable numbers. This disease is further characterized by a reduced number of white cells—leukopenia with a relative increase in the number of lymphocytes and also by the almost invariable presence of few myelocytes.

Severe anaemia of a secondary nature may occur from several causes, the differentiation of which from pernicious anaemia would necessitate single or possibly several examinations of the blood. Amongst these causes may be cited repeated or large hemorrhages, obscure but active syphilis, malignant disease, especially of the stomach, uncinariasis, bothriocephalus and carcinomatous metastases in the bone marrow.

In malignant conditions of the anaemia is usually distinctly secondary in type, but when numerous metastases have as may exceptionally occur taken place in the bone marrow, a moderate number of nucleated red cells and also of myelocytes may be found in the blood. Uncinariasis causes a gravid anaemia which may show considerable poikilocytosis with but few or no erythroblasts.

The hook worm also excites an increase in eosinophilic leukocytes while this form of the leukocyte is rarely found in pernicious anaemia. In the secondary anaemias of syphilis relative lymphocytosis and eosinophilia aid in the differentiation. The blood picture presented as a result of harboring the bothriocephalus tenia approaches most closely that of pernicious anaemia, but here the presence of myelocytes decided poikilocytosis and numerous nucleated red cells points to the latter disease.

Leukaemia, another primary blood disease, in both its lymphoid and the spleno myelogenous form, is a disease the clinical aspects of which may be resembled by many other affections. Notably amongst which may be mentioned, Hodgkin's disease, lymphatic hyperplasias due to tuberculosis, syphilis, and malignant conditions, while in connection with splenic hyperplasias we have malarial enlargements, amyloid degeneration, tumors of the spleen, of the left kidney or pancreas.

In the spleno myelogenous type of the disease we find that a moderately well defined anaemia is present when the case comes un-

der observation. As the disease progresses owing to the hyperplasia which takes place in the bone marrow and the anaemia, nucleated red blood cells will be found in moderate numbers in the peripheral blood. Leukocytic count shows that from 50 to 500,000 white cells are present to the cubic millimeter, while a differential count of the white cells reveals approximately the following average of the different varieties of the white cells: Lymphocytes, 5 to 10 per cent., Neutrophils 40 to 60 per cent., Eosinophiles 5 to 15 per cent., Myelocytes, 15 to 40 per cent. The diagnosis turns upon the large numbers of myelocytes since in no other disease are they so numerous. In exceptional instances all evidence of spleno myelogenous leukaemia may disappear during the stage of remission.

In lymphoid leukaemia although the anaemia is usually severe, but few erythroblasts are present. The leukocytosis in this type of the disease may number anywhere from 30 to 500,000, but the striking feature of this disease is that from 50 to 90 per cent. of all the white cells are lymphocytes. A small percentage of myelocytes are also present owing to the hyperplasia of the lymphoid tissue in the bone marrow. Very rarely genuine cases of lymphoid leukaemia present very low leukocytic counts, these forms are designated by Turk, as a lymphoid or sub-lymphoid leukaemia. The accompanying anaemia, the clinical signs and the relative lymphocytosis are, however, usually sufficient to form the basis of the diagnosis over such conditions as Hodgkin's disease, syphilis, tuberculosis or neoplasms of the lymph nodes.

Leukocytosis is not only a common and important blood symptom, but also one of broad significance. Physiological factors such as digestion, pregnancy, cold baths, exercise, free sweating, electricity, massage cause an increase in the number of white cells from one-third to double the normal. Pathologically, leukocytosis is excited by a wide variety of diseases, notably amongst which we find practically all the infectious diseases with the exception of typhoid fever, malaria, uncomplicated tuberculosis, Malta fever, influenza and measles. In the latter disorders a leukopenia or decreased number of leukocytes constitutes an important symptom in the diagnosis. The white blood cell count in the majority of infectious or inflammatory conditions does not exceed 20,000 cells to the cubic millimeter, exceptionally a leukocytosis of 50,000 may be found. The degree of leukocytosis affords to a great extent an index to both the intensity of the infection and the resistive powers of the patient. Absence of leukocytosis with clinical manifestations of

a severe infection indicates a lack of resistance and a probable fatal outcome. Leukocytosis also accompanies or follows acute delirium, convulsions, malignant conditions, poisoning by coal gas and ptomaines, the administration of anaesthetics, acute haemorrhages, operative procedures and the use of various drugs.

Ordinarily speaking we understand by leukocytosis an increase in the polynuclear neutrophils, the phagocytic or scavenger element of the blood. A differential white count may, however, reveal the fact that the increase may be due to an augmentation of any of the various types of white blood cells. The term lymphocytosis is used to denote an absolute or relative increase in the number of lymphocytes. A relative lymphocytosis is a common finding in the infectious diseases accompanied by leukopenia. Moderate lymphocytosis is observed in almost all severe anaemias, and in conditions of cachexia and great debility, while very decided absolute lymphocytosis is seen in lymphoid leukopenia and in chloroma.

Any absolute increase in the number of eosinophilic leukocytes, no matter what their percentage is in the differential white count, is a condition termed eosinophilia. This symptom may be of considerable assistance as a diagnostic aid, as it quite constantly seen in certain skin diseases, in asthma, in emphysema, in spleno-myelogenous leukaemia, in diseases of the bone marrow, in trichinosis and in all common varieties of intestinal parasites. As eosinophilia occurs constantly in scarlet fever and is absent in both types of measles it may be useful in the differentiation of these diseases. Eosinophilia associated with lymphocytosis and secondary anaemia may be of considerable assistance in the recognition of an obscure case of syphilis.

A peculiar staining affinity of the protoplasm of the polynuclear cells with dilute iodine solution—termed iodophilia is constantly present in purulent inflammations and it is therefore useful in differentiating serous and catarrhal inflammations from those of purulent nature. It is invariably absent in pure tuberculous abscesses and its presence in an abscess case points to mixed or pyogenic infection. Since iodophilia occurs constantly in gonorrhoeal arthritis and is absent in the rheumatic inflammations it constitutes a symptom of considerable value in their differentiation.

The following parasites are demonstrable in the peripheral blood and thus furnish pathognomic evidence of the disease. The plasmodia of malaria, the spirilli of relapsing fever, embryonic forms of the parasite of filariasis and the organism of trypanosomia-

sis. While the presence of these parasites affords positive proof of the disease, their absence is not always to be considered as absolute testimony to its non-existence. In cases of malaria when none of the plasmodia are found a large degree of corroborative evidence of the disease may be deducted from the pigmentation of the leukocytes, the character of the anaemia, and the leukopenia with a relative lymphocytosis due largely to an increase of the large mononuclear lymphocytes.

From a diagnostic standpoint the demonstration of bacteria in the blood is of value practically in only one disease, namely, typhoid fever. In 75 per cent. of typhoid cases we are able to find, by means of bacteriological cultures, the specific organism in the blood. A recent publication by Rosenberg on the presence of tubercle bacilli in the blood in tuberculosis would lead us to believe that the examination of the blood in this disease would be of great value as a diagnostic aid, but other authors have failed to confirm his results, and several have showed that Rosenberg was misled by the presence of hay bacilli in the distilled water.

Certain peculiarities acquired by the blood serum in some of the infectious disease also furnish a certain degree of diagnostic value. Variations in the amount of opsonins, the Wasserman reaction in syphilis, and the agglutination of the specific bacteria in typhoid, paratyphoid, bacillary dysentery, cholera, glanders and tuberculosis are valuable in this way. The Widal reaction in typhoid fever occurs in 95 per cent of the cases and is thus of great importance. Noguchis modification of the Wasserman reaction makes this test not only simple but practical. Since he has secured positive results in every active case of syphilis with his simplified technique, the value of this reaction will almost equal that of the Widal reaction in typhoid.

DISCUSSION.

H. J. Farbach: The portion of the paper that is of more general interest than any other, is that with reference to the Noguchi test for syphilis. I think every man, whether a specialist or a general practitioner, who has a case in which he cannot draw a sharp line between syphilitic and other infections, should give his patient the benefit of this test. It is as simple and as easy to make as the Widal test for typhoid, and it does not cause the patient any more inconvenience. It is a test that should be employed a great deal oftener than it is at present, especially in our own city.

C. H. Harris: One thing that struck me as the doctor was reading his paper is the wonderful provision of nature for vicarious action. Whenever any blood cells are destroyed, nature

makes a vicarious effort to keep up the function of the cells destroyed by supplying others to take their places; just as after a large hemorrhage we find nucleated large blood cells thrown into the circulation to take the places of those which have been lost. Nature is ready and willing at all times to supply us with those things which are destroyed by disease and thereby help us to recover from conditions which we could not otherwise recover from.

REPORT OF A CASE OF PULMONARY TUBERCULOSIS.

By J. ROWAN MORRISON, LOUISVILLE.

I am not reporting this case because of any remarkable cure or improvement due to any wonderful remedy, but because I have had this boy under pretty close observation for over five years, and have found several points of interest in the case, and would like this evening to bring about a discussion of the treatment of tubercular cases in our local climate.

J. P., negro, age 19 years, weight 129 pounds, height 5 feet, 11 inches. I first saw this boy in September, 1904, he was then a poorly developed boy, 4 feet, 8 inches in height, weight 90 pounds, skin dry and branny. There was very little pubic hair and practically no axillary hair. Puberty was just beginning. He had been a fairly healthy child, though slow in development; had had measles and whooping cough. Father and mother both living and healthy. Several members of his mother's family had died of tuberculosis, although none of them had lived in the house with him and as far as I can find out no other case of tuberculosis had developed in the house where he lived. He was quite a sensitive child and had a fickle appetite. When I first saw him his mother said that he had been feeling "poorly" for three or four months, had lost weight, and had practically no appetite. Eyes bright, and was having night sweats frequently. Examination showed pulse 130, temperature 103.1-2 and very rapid respiration, mucous membranes pale—somewhat cyanotic. There was very little glandular enlargement. Practically no movement of upper half of left chest.

Dullness of entire upper lobe left lung. Voice and breath sound exaggerated. Numerous rales. About two fingers below clavicle were signs of small cavity. Some rales over rest of left lung, but otherwise normal. Right lung normal except for increased work. He was expectorating large amount of thick, yellow sputum, which was full of tubercle bacilli.

I told the boy's mother, who was a very

intelligent negress, and able to provide well for him, that her son was in a very dangerous condition and that if she wanted him to improve it depended on her to follow instructions implicitly. I put him to bed on a sheltered porch with instructions to keep him in bed until I told him to get up. I ordered his mother to give him plenty of milk and eggs, telling her that they were cheaper than cod liver oil and other such medicines. I gave him a bitter tonic to increase appetite and ordered six to eight eggs and two quarts of milk a day, besides his regular meals. Cold sponging for neck and chest were ordered given daily. At the end of ten days' time, temperature about 100 to 102, pulse 100 to 110, his night sweats had diminished, but he had a severe bilious attack, his bowels were sluggish, his tongue coated and his belly puffed up with gas; he had no appetite, but his mother was forcing his milk and eggs down, hence, I realized my mistake—of over-feeding. Ordered a purgative, and cut down milk and eggs materially. His digestive symptoms improved very soon and thereafter I was careful to keep the bowels thoroughly open, and worked the milk and eggs up gradually, not forcing beyond his appetite. He was given elixir iron, quinine and strychnine before meals and Beechwood creasote five to ten minims, after meals. He improved rapidly, but was kept in bed for a month when he was allowed to be up and about the house and allowed to sit in the yard. The sputum greatly diminished and he only coughed a little in the morning; physical signs greatly improved. Appetite fine and the boy began to grow, and show all signs of puberty. At the end of a year he weighed 115 pounds, and had grown eight inches. He was now allowed to drive with his brother, who was a rural mail carrier. He continued to improve until the next February, 1906, when he contracted the "grippe." He had a severe coryza and bronchitis, fever 102 and 103, pulse 120, lost his appetite and all the physical signs in the upper lobe of left lung appeared again—large amount of thick sputum. He was put to bed for about a month and his symptoms gradually improved, but for two or three months the temperature was 100 to 101 in the afternoon, pulse about 110. The same line of treatment was continued. He gradually improved and was allowed to go for his ride every day. By December, 1906, he was in fine condition, weight 125 pounds, had grown three inches more in height. He now developed an attack of follicular tonsillitis. His temperature was 103 to 104, rapid pulse; symptoms in lung lighted up. He was put to bed, at the end of two weeks he

was very weak. Pulse 110, temperature averaging 101. Haemoglobin 65%. I gave him Tinet. Iron and kept him in bed in the air. At the end of six weeks his pulse and temperature were about normal and the physical signs in lungs much improved. Haemoglobin 90%. He continued to improve and after several months I allowed him to drive a mail wagon about fifteen miles a day, thus keeping him in the open air with very little exercise, and, besides, allowing him to make a living for himself. He regularly took 4 to 6 eggs and two quarts a milk a day with his meals and between meals. His appetite was good and if it slacked up I gave him a bitter tonic. There was very little sputum with some tubercular bacilli present.

The boy grew and became a pretty husky lad. His weight averaged 130 to 135 pounds and he was 5 feet, 10 inches in height. He went to school after returning from his mail route. He went on this way, and I thought the disease had been arrested as there were no physical signs except a little weak breathing and a few rales over the apex of left lung. But last February, 1909 he had a pretty severe coryza, which put him back only slightly, but as he was recovering from this he had scarlet fever and, about a month later, mumps. This combination floored him again. Physical signs returned in lung. He had considerable cough and sputum. Afternoon temperature averaged 100. Haemoglobin 70%. I again kept him in bed in the air for a month and gave Tinet. Iron with bitter tonic, and creasote. At the end of two months his symptoms were all much improved and he was allowed to drive his wagon again. However, he never regained his weight. I was unable to keep in touch with him for several months and when I saw him again about six weeks ago, he had a little temperature 100, pulse 115. Mucous membranes slightly pale. Numerous rales over left apex, sputum profuse. Considerable breaking down of lung tissue. On careful inquiry I found that he had not been taking care of himself. He had been sitting up late at night and taking too many liberties with himself; likewise, he was drinking three quarts of skimmed milk instead of two quarts of whole milk as I had ordered. He has now considerably improved after rest, iron and regulation of mode of life.

The points of interest in this case to me are these: That a boy with an active tubercular process with a cavity, could develop as much as this boy did. Next, I learned here how easy it is to give a patient a bilious attack by over-feeding with milk and eggs. I

have learned that as definite instructions for foods, water, rest, exercise and all hygienic measures must be given as are given for the administration of medicines, and that a good appetite and digestion is one of the most important things for a tubercular patient to have. Next, that the tubercular process did very well so long as there were not secondary troubles. That absolute rest in the open air soon reduced his temperature very materially, and stopped night sweats, and allowed this patient to pick up his burden and get along pretty well with it.

DISCUSSION.

O. W. Doyle: This is a very interesting case, and I think the doctor is to be congratulated upon the results obtained, especially in view of the fact that his patient is a negro. We can only have success in treating tuberculosis when the patient follows the rules laid down.

I think these bilious attacks in tubercular patients are due not so much to the eggs as to the milk, and personally I have adopted the plan of fixing one or two days a week on which milk is dispensed with entirely. I have seen patients drink milk for two years, missing one day a week, and never have a bilious attack.

One of the most important things is to get the patient something to do as soon as possible. There is nothing like inactivity to increase the blues and make them despondent. In Dr. Morrison's case, allowing the patient to go around the rural mail route and drive the wagon was of great benefit, as it serves to keep the patient out-of-doors and keep his mind off of himself. However, the occupation must be carefully watched in order that the patient may not overdo his strength and drop back. It has been my experience that some of the complications which apparently make these patients do badly for a while are really of benefit to them in the end. Frequently an attack of scarlet fever or measles, which may complicate tuberculosis, seems to be followed by greater benefit and more rapid improvement. I have in mind one patient who contracted typhoid fever, and during the attack had pneumonia and pleurisy, but finally recovered and has made better progress since that than he did before. He took on weight more rapidly and his appetite improved, and I am not sure that it was not more beneficial than some of the medicines I had been giving him.

I think the statistics furnished us with reference to the use of tuberculin are rather discouraging. I think we will find that the statistics finally published by the Laboratory of Research of Saranac Lake will not be all that is looked for.

W. B. Gossett: It has always been the rule in these cases that when the patient has a fever of 102, to put him to bed. About six years ago,

a young friend of mine who had tuberculosis, but who had great ambition and wanted very much to get well, went out to Colorado. He had a temperature of 102 or more, and they wanted to put him to bed, but this he would not do. Then he went to Kansas, and still did not go to bed, but rode and walked and led a pretty active life, all the time with fever. He was told that he would kill himself, but kept it up nevertheless. In spite of this he finally recovered and is out West this summer, in perfect health. He says he believes it was simply his ambition to keep up and work anyhow that cured him.

It is a question in mind whether we do not sometimes make a mistake in putting these patients to bed with slight fever.

H. J. Farbach: The secondary infection in this case brings out very clearly the value of vaccines in tuberculosis. It is usually secondary infection that gives rise to fever in tuberculosis. The human economy seems to be well able to handle the pure, primary tuberculous infection; it is the secondary infection that starts up the trouble. Dr. Morrison and Dr. Doyle both mentioned the fact that improvement in the tubercular condition was noted after recovery from secondary infection, the patient's vitality and resistance being free to cope with the primary trouble. If we take advantage of this in the cases of secondary streptococcic and staphylococcic infections, and use the vaccines judiciously, it will almost invariably produce good results.

I would like to hear Dr. Wilson say something about a preparation from which he has gotten good results for many years; that is, permanganate and bichloride.

This case shows what a wonderful power the system has to offset disease, aided somewhat by the treatment.

The method that Dr. Farbach referred to is one which we made use of thirty years ago in the college clinic; that is, the use of active agents germicidal in nature, permanganate of potash and bichloride. That was long before we had any knowledge of the germ which is now admitted to be the cause of the disease. We used permanganate of potash in combination with bichloride of mercury in small doses, in a vehicle of hypophosphates, and obtained very good results. Patients would come to our clinic not suspecting that they had any tubercular trouble, coming merely for relief from a cough or cold, and examination would reveal the presence of tuberculosis, with perhaps some slight evidence of consolidation of some portion of the lungs. Thus we had the advantage of detecting a great many cases in their very incipency, and by putting them at once upon active treatment, good results would be obtained; much better than we can obtain now, or then, in private

practice, simply because we were able to detect the disease in its very beginning. There is no disease that is more easily curable than tuberculosis if we can detect it in its incipency. I wish to emphasize that, because I feel that everything depends on getting the case in the beginning. We should carefully examine patients who have any symptoms whatever pointing in the direction of tuberculosis; also, persons whom we have any reason to believe have been exposed to infection. It should devolve upon the physician attending a case of tuberculosis to give special attention to those who come into contact with the patient.

Another point I would like to emphasize is the importance of the Board of Health giving careful attention to localities or houses in which deaths have occurred from tuberculosis. Our Board of Health receives, or ought to receive, a report of every death from tuberculosis. They should have a map of the city and when such reports are received, the locality in which the death occurred should be indicated on the map by a distinguishing mark, and the officials should keep their eyes on that locality. In the clinic at the Hospital College, we used to trace, as far as possible, the origin of infection in cases coming under our observation, and you would be astonished at the statistics, were I able to quote them, and at the large number of instances in which we were able to trace the development of the disease to the occupation of houses which had at some time been the location of a death from tuberculosis. If those statistics could be compiled and published, it would be a revelation to the community. The duty of keeping track of such houses devolves upon the Board of Health. Every house in which a death from tuberculosis has occurred, or from which a person ill with the disease has moved, should be quarantined until measures could be taken to thoroughly disinfect and render it habitable. If the Board of Health would undertake to do that and do it thoroughly, it would do more to decrease the spread of tuberculosis than any other measure we could adopt. Many persons will rent a house without knowing who has previously occupied it, and if they happen to get one which has been occupied by a tubercular patient, within a short time some member of the family will contract the disease. This can and ought to be prevented. The owners of such houses care only for the rent it brings, and when the house is vacated after the death of a consumptive, they rent it again without disinfection or doing anything to put it in sanitary condition. Our Health Department ought to take some cognizance of this condition of affairs. They get reports of all cases which result fatally, and it should be their duty to at once take charge of the house or locality, disinfect it and put it in thoroughly sanitary con-

dition before it is again permitted to be occupied.

E. S. Allen: I do not believe that any chemical can be introduced into the circulation in sufficient concentration to destroy bacteria without having a greater detrimental effect than that bacteria. I do believe, however, that mercury has a specific action upon the tubercle bacillus. Ross, of the U. S. Army, reports a number of instances in which he used hypodermics of mercury in the treatment of tubercular conditions of the lung. His attention was first attracted to this in treating patients for syphilis in whom some pulmonary condition was present, and he noticed an improvement in the latter condition under the mercurial treatment. Up to this time we had always given a rather grave prognosis in tubercular conditions complicated by syphilis, believing, as we did, that nature cured tuberculosis by round-cell infiltration, walling off of the infected area, and strangulation, and that if we gave mercury, we would cause a breaking-down of this protective wall and allow general infection to take place. Dr. Ross' report showed improvement of tubercular cases under mercurial treatment. Therefore, if mercury has any effect upon tuberculosis, it must be a specific one. I do not believe any drug, unless it is a specific, when not given in concentrated solutions, will have any effect upon the micro-organisms.

I doubt very much whether simple tubercular infection of the lung, unless very extensive, will result fatally. I believe, with Dr. Farbach, that it is secondary infection which gives us the rapid breaking-down of the lung—a septicemia, so to speak. We know that when we have an inflammatory condition we have an hyperemic condition there primarily, and the transudation and stagnation of blood, filling up the alveoli and bronchi, makes a suitable culture media for the mixed infection, which increases rapidly and we have rapid necrosis and the formation of an abscess. This cavity, filled with putrefactive and pyogenic germs, is the source of constant absorption of toxins, and the temperature is the result of rapid metabolism combating the toxins absorbed from this infected cavity.

I think Dr. Morrison's so-called complication of biliousness was the result of auto-intoxication; that the patient could not develop a sufficient amount of digestive ferments to digest the material taken in, and auto-intoxication developed.

I believe, with Dr. Farbach, that we will be able to make a better prognosis in the treatment of tubercular conditions if we will use vaccines to counteract the effect of secondary infections; that if we will make an autogenous vaccine and inoculate the patient with it, we will bring up the resistive power against the mixed infection, and if we can nullify the effect of the toxins, I

think nature will take care of the tubercular condition.

George B. Jenkins: I would just like to say a word along the line of preventive medicine.

In the first place, it is absolutely essential that proper means of disinfection be provided before we can hope to control such conditions as this. There are ordinances on the books of this city making it compulsory, under pain of a fine and other dire penalties, for doctors to report, not only the deaths, but every case of tuberculosis. Further than that, it is the effort of the Health Office to fumigate for every such condition reported. We receive reports from some doctors prior to the death of the patient, from other doctors after the patient has died, and from some not at all. Dr. Wilson has for years been in charge of the largest clinic at the Hospital College, and I expect it is a safe statement that he has not reported two per cent. of the cases which came under his observation there. Therefore, he should not criticize a law that has dealt so leniently with him. Doctors do not report these cases and when asked about it get angry, and when brought up in the ordinance court and fined they grow very offensive. Again, many doctors will not report a case of tuberculosis for reasons of consideration for the family. There are doctors here who never see anything but a catarrhal condition. There are always "two banks to every stream"; you report and we will fumigate.

J. Rowan Morrison (closing): In regard to Dr. Gossett's friend, all I have to say is that I admire his vitality.

I could report a number of cases similar to this one. I took this case for this reason: Here is a boy, a negro, who has grown to puberty, and has increased from 4 feet, 8 inches to 5 feet, 11 inches in height, and during that time he has had very little treatment—something for his appetite and a little creasote. Creasote seems to help the intestinal condition; of course, however, it does not go in and kill the germs. If the hemoglobin is low I give him a little tincture of iron, or Basham's mixture, and give him spinach, asparagus, etc., something that will make iron. The tuberculosis will take care of itself if we can keep these patients from having all sorts of other things.

With the ordinary person, I believe it is just about as important to keep the throat clean as the teeth. If you will look at the average man's tonsil, you will find that it is of pretty good size and usually has particles of food in it. Therefore, I do not see why it should not be washed off regularly just like the teeth.

In regard to the use of vaccines to counteract the effect of secondary infections, if we can make an autogenous vaccine from the germ that is causing the trouble, we may be able to raise the resistance of the patient and stop the secondary infection. However, most of these pa-

tients are able to overcome these septic conditions simply by taking plenty of fresh air and good food. I have noticed that it is the negroes who live in squalid homes and eat poor food who die, and die quick. If the patient is a farmer and he will simply give up farm work and ride around in a buggy, and eat plenty of ham and eggs and beef and milk, he will live a long time. I have seen them grow up and die of old age. (Laughter.)

In regard to mercurial treatment, which Dr. Allen mentioned, I know of one patient who took it. Some doctor out West put him on mercury and it certainly seemed to do him a lot of good. He was in very bad shape and he improved considerably under the mercurial treatment. He became very robust, his anemia entirely disappeared and his sputum greatly diminished, and all the physical signs improved. He said he did not have syphilis and there was no reason to believe that he had. It is possible that mercury does have a tonic effect.

ADVANCEMENTS IN PROCTOLOGY.

BY J. M. MATHEWS, LOUISVILLE.

Before I refer to my own subject, I want to compliment these young surgeons for the cases they have reported here to-night. I have often had the pleasure of attending meetings of societies in this country and in Europe, but I never have attended a medical society, where there were three more important cases reported than I have heard reported to-night by these brilliant young surgeons. A number of years ago (the number can be had by reference to the Proceedings of the Kentucky State Medical Association) Dr. D. W. Yandell, in his report on Surgery, said that whenever a man was shot in the intestines he was destined to die and nothing on earth could save him. Two years after that, I had the pleasure of making the report on Surgery, and I corrected the doctor's statement, because a few such cases had been reported that had recovered, and here to-night a surgeon (Dr. Lee Kahr) reports a most wonderful case of gun-shot wound of the intestines, and it goes without discussion. It shows a most remarkable advance in surgery and I want to compliment the three young gentlemen for their splendid work in these cases reported to-night.

When I tell you that I have just returned from a two weeks' trip to Oklahoma, it will serve as an excuse, I believe, for my not appearing here to-night with a written article. I have not written my thesis, but I thought it was a good time to have a talk with my people about the specialty that I have been engaged in for thirty-three years. I have often been asked by members of the medical

profession to tell them why I adopted this line of work as a specialty. I have never answered this question to any body of men, but I propose to answer it to you to-night. If you will bear with me, I want to recite the history of this specialty and compare it with what it was in the day that I took it up. I am not going to raise any point for discussion in what I shall have to say to-night. If it is deemed desirable for me to afterwards write down my remarks for publication, I will do so, but I would really rather not do that, my object being to simply talk to my brother members of the profession about a subject that has been a little obscure in the eyes of the medical profession, and give you a history of it. In going into detail I may appear to be a little personal, but I hope you will not consider it as being egotistical; I will try and not over-step the boundary line of modesty in any allusion to myself.

The Journal of the Proctological Society of America has seen fit to call me the "Father of Proctology," and I was glad to know that I was the father of anything, that I immediately subscribed for his journal.

About thirty-five years ago, I was sitting in my office, then on Nineteenth and Walnut streets in this city, where I was struggling to do a general practice, in conversation with my friend, Dr. George J. Cook, of Indianapolis, who said to me: "Don't you think it would be a good thing to make a specialty of diseases of the rectum?" I answered him that I had never thought of it. "Well," he said, "I have. These conditions arise and they receive very little treatment at the hands of the general profession; they are serious in their nature and I think somebody in the profession should give them some special attention." That was a germ for thought in my mind. I took it up and afterwards concluded to make it a special line, after an investigation which I will mention later, but the idea originated with Dr. George J. Cook, who, five years later, took up the same specialty and is now practicing it in Indianapolis, Ind.

Before proceeding to take up this special work, I went to the different physicians and surgeons of Louisville, and asked them how much work of this kind they had ever done. I found but one man in the profession who admitted that he had ever examined the rectum carefully, meaning, by the use of the speculum, etc. I found a few (and you would be surprised at the comparatively few) who had performed an operation upon the rectum. At that time there was living in this city a man by the name of ——— who was an irregular, who had very little knowledge of medicine or surgery (and,

gentlemen, I say this advisedly), but he did a very large practice in diseases of the rectum, and I found that my medical brethren were sending such cases to this—shall I say charlatan?—for treatment. He was known at that time as quite a wealthy man and he had accumulated his fortune in this line of work. How he treated them my time will not permit me to tell you, although I investigated that question thoroughly. I will only say that his treatment of fistula in ano was by silk ligature, and his treatment for piles, either external or internal, was to ligate, paying no respect to any surgical procedure in his cases.

After this investigation at my own home, I went to New York hoping there to complete my studies upon this special subject. To my very great surprise, after remaining in New York for two weeks, I had been unable to find a clinic; there was no surgeon in New York who was paying any particular attention to this line of work. I went to Dr. Louis Sayre, who had just returned from Europe, and asked him where I could see a clinic, and from him I gained the information that London possessed the only hospital devoted to diseases of the rectum in the world. He gave me a letter of introduction to Dr. Erskine Mason, of New York, who had written some on the subject. Dr. Van Buren had also written a small work, perhaps 150 pages, upon disease of the rectum. Dr. Van Buren was not in New York at the time I went there, and Dr. Mason was doing but little work of the kind. At St. Mark's I had the pleasure of meeting Mr. Allingham, Sr., who was very kind to me.

Returning to my home here, I found that patients suffering with these diseases were in the hands of charlatans altogether; there was not a specialist in the world doing this kind of work. Mr. Allingham was not a specialist on diseases of the rectum; he was a general surgeon, and a good one. His conferees were not specialists, although they paid a good deal of attention to these diseases at St. Mark's. Therefore, it was a venture on my part to assume it, but I must confess that I had very little doubt but that it would be a success. My first patient was a negro woman sent to me by my friend, Dr. Preston Scott, and I want to say this to the young men who are practicing medicine or surgery. That negro woman was, of course, unable to pay me anything, but she sent me five good paying white patients, and it was a good investment; therefore, I have always said that it does not pay to turn anybody aside, because everybody has some influence and it will pay you in the end. This outside a charitable view.

My chief difficulty was that the profession did not understand what I was after. They asked me—"Why don't you combine genito-urinary work, or some other form of work with this special line of proctology?" "Well," I said, "I have started out to be a specialist, and if I combine genito-urinary work, or any other form of work, with my specialty, I will infringe upon my brother practitioners." So, during the past thirty-two years of my life, I have confined myself to diseases of the rectum and colon, doing nothing else. But the profession could not see that there was enough in this line for any doctor to make a living at or gain a reputation. I think the fact that so many men are now pursuing this line of work is sufficient to refute that idea.

After seventeen years of this special work, as is known to my friends, I attempted to write a book, detailing in that book the mistakes which had been made, and accepting nobody as an authority, because experience had taught me that many things were taught which were not true, and many things which were true had not been taught. Shortly afterwards, I followed it with a medical journal, called after my own name. In that venture I lost a good deal of money, but I have some satisfaction in knowing that it did some good in founding this specialty and educating others. Since that time, as authors in this country along that line, we have Gant and Tuttle, and Kelsey, and Beech, and Earle, and others, who have written voluminous volumes. Now, I want to say this to you, my friends, (and you will bear with me, I know) that a man wishing to prepare himself for proctologic work cannot do so by reading any work upon surgery or gynecology alone. It is remarkable how little attention is paid to diseases of the rectum by the general surgeon and gynecologist. Works on surgery and gynecology all have some reference to this class of work, but not enough to educate a man to become a proctologist. Therefore, I wish to advise any of my younger friends who are interested in proctology to read the works of the men I have mentioned above, or others of like kind.

Will you permit me to compare the specialty when I took it up with what it is today? Then, being the pioneer (as my friends have done me the honor to say) in rectal work, I was the only specialist in the United States in this line. Has it paid me financially? I think it has—about as well as any other specialty. In reputation? I claim a modest reputation due to sticking at work and giving my views to the profession. Therefore, for remuneration, or gratification of ambition of the man who takes up this speci-

al line, I claim it is the equal of any other specialty. Today, in every city in the United States (and I may even extend this to Europe) of one hundred thousand inhabitants or more, you will find from two to five specialists in diseases of the rectum. I am glad to say that, in this city, it is represented by able, conscientious splendid young men, and it is with pride that I say this. Aside from this, there is not a medical college that I know of, with any reputation, or a post-graduate school in this country where proctology is not taught. Indeed, I believe the medical student would seek some other college rather than go to one where this branch was not taught, because he sees in it a work of remuneration, if not of reputation. The writings on proctology I need not cite to you, because in nearly every issue of every journal the writings have been voluminous. I do not know of any other subject that has interested the profession of this country so much as this has in the past ten years. Also, a national body has been formed, known as the American Proctologic Association, which meets every year at the same time that the American Medical Association meets. This body has been asked to become a section of the American Medical Association, but the members composing it believe it to be best for them to remain separate. In this association are some of the ablest surgeons in the United States; I have not time to mention their names, but if you will look over the roster you will see for yourself.

In connection with this work, we have a journal—a large, well-edited medical journal, devoted entirely to proctology. I mention this to show that it has increased from one man as a specialist to hundreds of men as specialists in this line, and has in its ranks some of the best surgeons in New York, Baltimore, Boston, Chicago, St. Louis, Kansas City, and almost any other city you might mention.

Will you permit me, my friends, to mention, with all modesty, some of the advancements in proctology that I claim as original with myself?

In the first place, the *specialty*, originated with myself. This is accredited me.

In the second place, after many years of this work, I discovered that practically no attention was paid to the treatment of the sigmoid flexure. Before making this statement, I made an investigation, covering both the United States and Europe, to ascertain whether or not my statement was true. It is borne out by facts. Therefore, I make the statement that no one ever treated the sigmoid flexure and colon locally until I did it,

and I devoted one chapter in my book to the treatment of these organs.

Third, I claim priority in the operation of colopexy. All surgeons know the difficulty we had in controlling prolapse of the bowel, and it occurred to me to open the abdomen and suture the colon to the abdominal wall, and I did this on the largest prolapse ever known in this country with a perfect result. There had been two colopexias done before that on smaller prolapses, in which the results were *nil*. At the time that I did my first colopexy I had never heard that any such had been even suggested.

Fourth, I claim priority in the treatment of stricture by forcibly breaking it. My procedure was to introduce a large sized speculum and break the stricture. Of course, you will understand that the location of the stricture was taken into consideration, and it was not done when located high up, or where the peritoneum was involved. This method was the subject of much criticism, especially by Dr. Bauer, who said that if he did it once he would kill his patient, but in the hundred or more cases in which I have done this, I have never had any ill results. I still believe it is a good operation for stricture of the rectum, at least for its temporary relief.

Fifth, I claim priority in the extensive way of doing the operation for fistula in ano. We were taught by such men as Van Buren that simply the division of the main sinus was all that was required in fistula, and were told by others that by dividing the main sinus the inflammatory process was such that it would heal the other sinuses. I investigated this for many years and found that it was not true, and I adopted the extensive operation and kept it up, and I believe most surgeons now follow the same plan. I also use a "Fistulatome" of my own devising in selected cases.

In connection with this report I will say that it has long been the impression among the laity and among the profession as well, that the main part of this specialty is the operation for piles, or hemorrhoids, when, as a matter of fact, that is the most insignificant part of the specialty. I have tried new operations for piles as nearly every other author has. I suggested the use of the clamp, cutting them off and using the stitch method to prevent hemorrhage, but, at last, with all that, I, or any other man or set of men have suggested, the operations have narrowed down to the ligature, clamp and cautery. I know there are men here who will smile at my mentioning the ligature in operation for hemorrhoids; nevertheless, after thirty-three years of experience, I would not give the ligature for any other operation known for

hemorrhoids. Some of my friends will say: "What are you going to do about sepsis, and strings hanging out of the anus, suppuration, etc." I answer I have done several thousands of operations with the ligature, and I have never had that to occur in my life. I lost one young woman who died of tetanus. I have never had sepsis, *per se*, to occur in a single case, and I have used the ligature over two thousand times. Is not that sufficient answer? Some of these gentlemen will tell you that you have to watch every case carefully, because you will have contraction of the anus. I have never known this to occur after the ligature but once, but it is often found when the clamp and cautery is used. As Gross says, and as Ericson says, it is the simplest operation known to surgery.

Seventh, I called attention to the part that syphilis plays in stricture of the rectum, and made the bold statement that eighty per cent. of cases of stricture of the rectum were caused by syphilis. I fought a hard battle with Dr. Kelsey, of New York, for seven years over this statement, but men in other cities came forward and verified it; indeed, some even went so far as to say that the percentage of cases of stricture of the rectum due to syphilis was greater than eighty. Syphilis is a cause of stricture, but I have not time to enter into a discussion of the pathology here. I also maintain that anti-syphilitic treatment can not cure a stricture of the rectum, yet to this day I see articles in journals where these patients have been put upon anti-syphilitic treatment, that do no good whatever and can do no good.

Eighth, I had the pleasure of suggesting treatment for prolapse in infants. Dr. Fowler, of Brooklyn, read a paper at about the same time in which he advocated the same manner of strapping the infant's buttocks, keeping it there for eight or ten days with most positive results.

Ninth. A number of years ago, I suggested dissection of the skin for pruritis ani, and afterwards Dr. Kelly, of Baltimore, advocated the same thing in the pruritis vulvae. I do rather an extensive dissection, and I have never performed the operation that I did not cure my patient. As an advance in this line, Dr. Hanes has suggested that it is not necessary to do my operation; that he can simply take off the lower inch of the mucous membrane, etc., and it will do as well. Well, all I have to say is I have my cases and I will have to see his.

Incidentally, I once made the declaration that the colon tube is not introduced into the colon once in one hundred times that it is supposed to be. I have had physicians and

surgeons dispute this statement; I have had nurses tell me that they could introduce a colon tube into the colon without any trouble at all. I still maintain that it is not introduced into the colon, and, knowing that, I suggested the use of the Wales bougie in treating the colon. For irrigation of the colon this is far superior to the colon tube which does not enter the colon.

I suggested that tubercular ulcer of the rectum could be cured. In former times these cases simply went to waste. I also suggested that the *sine qua non* in the treatment of tubercular ulcer, was the use of the actual cautery.

I wish to speak of the advancements in this special line since I have been in it; these other things relating to myself are simply incidental. Take operations for cancer. In those days it was seldom attempted. The excision of the rectum, or the sigmoid, or a portion of the colon, was not deemed justifiable. We have had many discussions in the Surgical Section of the American Medical Association on the question, but it was with great unanimity in those days that it was advised against. I remember to have read a paper before the Surgical Section of the American Medical Association at Baltimore, which Dr. Senn and Dr. Tiffany did me the honor to discuss, in which I took the position that, where the general system had become infected, I did not believe an operation for the excision of the cancer was justifiable. The advancement in resection of the intestine for cancer has been marvelous. There are surgeons here before me who are doing this operation successfully. Whether they take it out through the vagina, or by circular incision, lumbar region or what-not; men are doing these operations and they are curing their patients. The different methods that have been advocated, the brilliant surgery that is being done, are along the line of proctology, because the proctologists of the country are those who have advocated this procedure against this bane of the medical profession—cancer. If it is true that by operation we can save or prolong the life of the patient, it has been a most wonderful advancement. Nor is this confined to the rectum, but operations for the removal of cancer of the sigmoid or colon are commonplace, and I will say here that I regard, as the best and safest location looking toward a successful result, extirpation of a cancer of the colon or sigmoid, rather than of the rectum itself. These are going to be, and are, the cases that recover. In regard to removal of cancer of the rectum, I will say, in order to give a little more credit to my proctologic friends, that I know of no more difficult op-

eration in surgery than removal of the entire rectum for carcinoma.

Second, I will mention as an advancement, extirpation of the colon for constipation. You, like myself, no doubt, would hesitate to attempt this, but while in London last summer I had the pleasure of meeting Mr. Lane, and I found that I had (and perhaps you have also) misconstrued his cases. They say they do it only as a *dernier resort*. Where the patient has suffered for years from auto-infection or intoxication, and drugs do them no good, there is a pathology; therefore, they go into the abdomen and do this resection of the colon, and they report some brilliant results. Of course, they also report some deaths.

Skipping colopexy, an advancement which is now often practiced by the proctologist, is the operation of colostomy. In former days it was one plain, simple operation; to-day it has been improved by possibly a dozen men and is much more satisfactory. In those days we often had leakage, and a miserable condition resulted. Few patients would consent to the operation and very few surgeons would perform it, on account of the nasty conditions.

One of the greatest improvements in our work has been the introduction of the proctoscope versus the speculum. Thirty years ago I heard the elder Allingham say that he did not use the speculum once in fifty examinations because it revealed so little. Today the speculum is scarcely used at all, but the proctoscope is used extensively. You gentlemen who have never done any of this work would be surprised to know what can be seen in the colon, sigmoid flexure and upper part of the rectum through a proctoscope with the patient in the proper position. When Dr. Kelly first introduced his proctoscope I had the pleasure of being in Johns Hopkins and was asked to witness its introduction (before it was given to the profession) into the colon of a woman. It was 22 inches long and the diameter was not over one inch. My objection to it was that it was dangerous to introduce it, and the field for impaction was so limited. Now the proctoscope should be only six or seven inches long and you can see the entire sigmoid flexure without any trouble, as well as portions of the descending colon proper, and you can make out any disease which may be found there with the proper light and the patient in proper position. A great deal depends upon the position of the patient. You cannot see anything with the patient in the position which has been in vogue for time immemorial, which is upon the side or back; you cannot see anything in that position with either the speculum or proctoscope. Dr.

Martin, of Cleveland, now of Washington, seeing this condition of affairs, suggested that the patient be put upon a table of his own device and turned until he has assumed the knee-chest position. I thought then, and I think now, that the patient might as well assume the ordinary knee-chest position. A much better position is the one suggested by Dr. Hanes, of this city, which is to invert the patient completely, from a table, putting his head on the floor and his buttocks in the air. I have seen patients remain in that position for three-quarters of an hour and get up without any dizziness or discomfort whatever. This allows you all the time you need to make a thorough investigation. With the patient in this position the contents of the bowel gravitate away from you and the gas escapes. A large proctoscope is then introduced six or seven inches, and by the aid of the mirror under-light you can look into the sigmoid flexure and make any application that you wish.

I am sorry that Dr. Martin, of Cleveland, ever taught that by looking through the proctoscope you can see valves. Mr. Houston did that many years ago. He regarded them as physiological while Dr. Martin regarded them as pathological, causing constipation, and suggested a division of the same. Now, to divide that which aids in supporting the fecal mass and aids in defecating is ill-advised to say the least of it. My own opinion is that they are perfectly physiological, put there by God Almighty for a purpose, and should be let alone.

Permit me to say a word about local anesthesia. Many operations upon the rectum and around the rectum can be done under local anesthesia, but, gentlemen, there is no such thing as a small surgical operation. The danger in doing surgery is from sepsis. It is a small thing to cut off the tip of your finger, but you might have a septic infection that would kill you. It is a small thing to cut off an external or an internal pile, in an ambulatory way, in your office, but your patient may die of sepsis. If your patient is in a hospital where every precaution can be taken and you can protect him just as you would for a major operation, and you confine yourself to a simple operation under local anesthesia, all well and good, but when a surgical operation of any kind is performed in a man's office, I do not consider that the operator is giving the patient a fair chance.

I consider that one of the most important advancements in proctology that has been introduced within the past twenty years, is the investigation of amoebic dysentery, by Dr. Hanes. He has demonstrated, in the first

place, that the ordinary method for detection of amoebae, as practiced by physicians is not correct; that the stools will not always reveal to you the disease you are seeking. The scraping of some of the invaded tissue ulcer is performed by him. When placed under the microscope under proper precautions, this will reveal to you whether or not your patient has amoebic dysentery. He has also demonstrated that the great majority of diarrheas and dysenteries of this country are amoebic. He asserts that the dysentery of the Civil War was amoebic. If you could have been at our offices and have seen the men, women and children who have come there for treatment during the past year, who have never been out of the State, and yet have confirmed amoeba—some of them nearly dying with it—you would be convinced. Therefore, he has established the fact that amoeba is as indigenous to Kentucky as to the torrid zone; that persons living in any city or state are just as liable to develop this disease as the inhabitants of the hot climates, and that the common diarrheas and dysenteries that we are treating every day are nothing more nor less than amoeba. This can be demonstrated in his office any day. As an example, we have had under observation for two years a patient who has had a little dysentery to which no particular attention has been paid. Yesterday, Dr. Hanes scraped one of these little ulcerations, and found it to be simply loaded with amoeba. His investigations revolutionize the subject and it enables us, not only to detect them, but to cure them. You know his cure—coal oil. I have examined these patients after as much as a gallon of coal oil had been introduced into the colon, and I could detect absolutely no toxic effect, no acceleration of the pulse or anything of that kind.

Now, gentlemen, I have tried to give you the advancements in the special line that I am wedded to, and I want to make this little appeal to you. If any of you are inclined to study the subject, I wish you would get works on *proctology* and not general works on *surgery* and *gynecology*. Some men will do most brilliant *gynecological* operations, and yet leave undiscovered a disease in the rectum that has been responsible for the symptoms for which they did the *gynecological* operation. I am prepared to prove that at any time. It is not going too far to say that I have operated a number of times after a *gynecologist*, and I have relieved the patients of the distress of which they complained and for which the *gynecological* operation was performed without success. My plea is that you make your diagnosis not forgetting that the rectum is accountable for a great

deal of distress simulating that which we are told is produced by the ovaries, uterus, liver, stomach, brain and other organs. You will often find it simply by making a thorough examination of the rectum. It is so easy to make the examination and the trouble is so easily made out, that all we ask (I am speaking for the proctologists) is that, in making up your opinion of the case after you have gone over other organs of the body, you will please insert a proctoscope into the rectum and see if you can find a lesion there.

I hope I have not wearied you and I hope I have not appeared immodest, but it is the first time I have talked about the origin of the specialty, and I have tried to give you a slight understanding of what is in the present day practiced by some of the best surgeons in America and Europe. I thank you for the good attention given me in these desultory and off-hand remarks.

DISCUSSION.

Wm. H. Wathen: When I came to Louisville to study medicine, Dr. Mathews had a large practice in diseases of the rectum, but even at that time there were a number of old surgeons who would not recognize a rectal specialty, believing that no sane man would advocate such a specialty; but those men have all died and gone to heaven, and Dr. Mathews has done more than any one else in this country, to prove that there is a specialty of rectal diseases.

I take unto myself some of the credit for putting Dr. Mathews in a position where he could bring conspicuously before the medical profession the important study of Proctology. Many years ago I had the Board of Regents of the Kentucky School of Medicine elect Dr. Mathews Professor of Proctology, and that was the first Chair of Proctology created in this country. He then wrote his splendid work on Diseases of the Rectum. His fame is so well established that the success of his work can be no longer questioned; and the fact that abdominal surgeons and gynecologists are doing much good work along this line does not in any sense detract from the value of the specialty. I think we abdominal surgeons, general surgeons and gynecological surgeons have been much benefitted by what the proctologist has taught us, and while we go above and do as good work as the proctologist in the abdominal cavity by making resections of the upper part of the rectum or the sigmoid flexure, the proctologists are doing the same thing. They are with us and they are going to stay with us.

E. O. Witherspoon: I wish to take this occasion to give Dr. Mathews all the credit for being the pioneer in this work.

Speaking of the amoeba that Dr. Hanes has studied and is studying so much about, I have

thought for a year or two past that he was on the right line. I do not believe that this is a disease that is indigenous to the hot countries alone. In my experience, I have seen cases in this city, and referred here, who had had absolutely no chance in the world to have become infected from other cases brought to this country in any way, shape or form, and I have thought for some time that we would eventually find this disease not necessarily indigenous to the hot countries. This view seems further to be out by the observations of Dr. Tuttle, Gant, Simon, Fletcher, etc., in their respective locations.

CLINICAL DEPARTMENT.

GUNSHOT WOUND OF THE JAW.

BY C. B. SPALDING, LOUISVILLE.

Case No. I. This man is Sergeant L., a member of the Louisville police force, who was shot in the lower jaw, and came under my care during my service at the City Hospital. I present him to you through the courtesy of Dr. Sherrill, the present staff. I show the case on account of the great comminution of bone on both sides. The bullet entered the left lower jaw about half way between the angle and chin and splitting the tongue, and coming out at a point a little higher on the opposite side, comminuting the bone between the angle of the jaw and the chin, on both sides, into small fragments; in fact, I do not believe there was a piece longer than a quarter of an inch on either side. I figured that, as they were perhaps attached to the periosteum, it would be better to leave them there, and as the results show, this was a very good decision. The bone has remained intact and has grown. There is slight motion of the left side and the tongue is slightly adherent to the floor of the mouth, giving him a little discomfort.

You will also notice that there is slight interference with the nerve supply on the left side; the mouth drops a little and there is a small area of numbness. All I could use was a Barton bandage, for the reason that the tongue was swollen and black, and on account of the hemorrhage and secretions the mouth had to be irrigated frequently and the bandage changed daily. No kind of a splint could be used on the jaw and I could not see any other way of managing it. If any one can suggest a better way of dealing with the case I shall be glad to hear it.

A peculiar feature is that the man had two sound teeth and two snags in the lower jaw, and the shot took out the two snags and left the teeth.

DISCUSSION.

Irvin Abell: Dr. Spalding is to be congratulated upon the result he has secured. Fortun-

ately, in fractures of the lower jaw there is a natural tendency to union; in fact, I do not recall having seen a case in which there was non-union. One of the best appliances for treating these fractures is that suggested by Matas, yet in an instance of this kind, with comminution of the bone on both sides, it would hardly answer the purpose. I do not know of any appliance that could be used in a case of this kind except one which would pass under the jaw, giving support to the fragments. Evidently the bandage he used answered that purpose satisfactorily, because the result is everything that could be desired.

J. G. Sherrill: I do not think the doctor could have improved his result by the use of any appliance. As Dr. Abell said, the bandage gave all the support that was necessary. Perhaps the swollen tongue helped to retain the jaw in place.

My experience has been similar to Dr. Abell's; that, although in these cases of fracture of the lower jaw union may be delayed by infection, non-union does not occur.

This case demonstrates, more than any other one thing, that even in the presence of extensive comminution, if there is good attachment to the periosteum, you may expect repair to take place.

RENAL CALCULUS.

(Report of Case.)

BY C. B. SPALDING, LOUISVILLE.

I have here a specimen which may be of some interest on account of its size. It is a renal calculus which was passed through the urethra. The history of the case is interesting in that diagnosis was never made. This man is about 27 or 28 years of age, very thin and somewhat delicate, with a very thin abdomen, yet his muscles are quite rigid. He has been coming to me once every two or three months for the past three years, complaining of pain in the abdomen. This pain was localized over the splenic flexure of the colon. He has always been constipated, requiring a laxative every morning to move his bowels. Under free purging this pain would always disappear, and I never saw him at his home except once in January and once in April of this year, and each time it required morphine or heroin to afford him relief. The pain was most intense over the splenic flexure of the colon and left kidney. I was never able to make out the kidney and there were no other symptoms of calculus whatever. He was relieved of each attack by violent purgation. This summer he suffered an attack of typhoid fever, which lasted about six weeks and following that, at his own desire, he went to Hot Springs and stayed there for a couple of weeks. During

his stay there he said that one day while urinating, this stone shot out of the urethra. After this had occurred he recalled that on several occasions while he was ill with typhoid, he had felt a sudden desire to urinate and could hardly get the urinal quick enough, and then he would not be able to pass any urine.

This is the only calculus I have seen passed in this way. I had suspicions that there might be some lesion of the kidney, but was more inclined to believe that the trouble was in the colon on account of the history, the difficulty I had keeping his bowels active, absence of other renal symptoms, etc., and at the same time his family history, nearly all of his people having died of tuberculosis.

DISCUSSION.

John B. Richardson, Jr.: This is certainly a very interesting specimen. I would rather question whether it passed through the ureter; it must have remained in the bladder some time before it passed, and still it is of rather large size to have remained in the bladder. I have had a patient under observation for the past four years who has passed three small stones through the urethra, with previous typical attacks of renal colic.

This case has been very interesting to me because of the fact that the patient's family, and himself also, previous to these attacks, have always had oxyluria, and in his immediate family his wife has suffered from attacks of oxyluria, and two children, two and three and a half years old show the presence of oxylate of lime in the urine. While in the children it has not produced any symptoms in the adults it has.

C. B. Spalding (closing): I suppose this stone is composed of uric acid; it looks like it.

In regard to Dr. Richardson's remarks it is impossible to say whether or not this stone had been in the bladder for and length of time. The attack which occurred in April last was the most severe he has ever had and the pain was directly over the kidney; no symptoms referred to the bladder. During the early part of the attack of typhoid he suffered mildly the same symptoms for a couple of days, giving no symptoms after that referable to the kidney until he passed the stone without any great effort, about a week after he left the hospital. The typhoid lasted six weeks and he had been convalescent for three weeks when the stone passed.

Malformations of the Heart.—In this paper Keith discusses transposition of the arterial stems; reversion of the heart; imperfect separation of aorta and pulmonary artery; patent ductus arteriosus; malformation of the semilunar valves; imperfect formation of septa; the foramen primum; and patent foramen ovale.—*Lancet*.

EXOPHTHALMIC GOITRE.

(Exhibition of Specimen.)

By JOHN R. WATHEN, LOUISVILLE.

I have here a rather large exophthalmic goitre, which was removed last Saturday morning. This is an unusually large specimen and the patient had typical exophthalmia, the eyes protruding extremely. The highest point reached by the pulse was 160, but under careful preparatory treatment for three months prior to operation, it was reduced 100 and 110. We attempted radical enucleation rather than ligation of the vessels. The lobe on the other side was possibly one-third the size of this and on that side I ligated the superior thyroid.

This case was one which in my former work I would have been sure to lose, but with my increased experience, especially in regard to the after-treatment, I think I will be able to save the patient.

The secret of success in this work is very rapid operation, comparatively speaking, and proper drainage. I have come to the conclusion that tubes are only valuable for draining blood where there is considerable hemorrhage, but are really of no value in draining off the toxic product of the goitre. For this purpose gauze should be used and changed every few hours for the first twenty-four and then every six hours. In this case the gauze was changed every three hours, thus counteracting the discharge of toxin. When you pull the gauze out, it has a greasy, buttery appearance to it.

I present the specimen because it is of unusual size, making the case a very difficult one to handle.

Prophylaxis of Postoperative and Other Forms of Ileus.—Heile makes a point of stimulating peristalsis in all cases of diffuse peritonitis, etc., by injecting from 50 to 100 c.c. of warm castor oil directly into a high loop of the small intestine before closing the abdomen. A silk draw thread closes the small hole made by the needle in injecting the castor oil. It seems to work more effectively if emulsified with a little soda and water. He has had 30 very severe cases among 250 of peritonitis in recent years, and 5 died of the 20 treated without the castor oil, while only 1 died of the 10 receiving the oil, and the one fatally was in a patient practically moribund when operated on. He uses a special syringe which allows aspiration of bowel content before injection of the oil.—*Zentralblatt für Chirurgie*.

OPERATION FOR ACUTE INFLAMMATION OF THE GALL-BLADDER ON NINTH DAY OF TYPHOID FEVER.

BY WM. H. WATHEN, LOUISVILLE.

About five weeks ago I operated on a patient for Dr. Walker, of Henryville, Ind., and was assisted by him and Dr. Horine. He suspected an intestinal perforation in typhoid fever. The shock occurred in the night following the eighth day of the attack, the temperature rapidly falling four or five degrees, with cold, clammy perspiration. When I reached the patient, at about two o'clock in the afternoon, the temperature had risen to about 105 degrees, F.; pulse 120, previously having ranged around 90. There was little distension but decided tenderness and boggiess in the region of the gall-bladder. We diagnosed acute cholecystitis from typhoid infection. Believing that moving the patient to a Louisville hospital might result in perforation, I operated, on a large dining table at the patient's home. The entire lower part of the abdominal cavity and the small intestines were apparently healthy, but the gall-bladder was so tense that rupture might have taken place at any time, and the gall-stones could be felt within it. After having very carefully walled off the gall-bladder, it was opened and drained of its contents, which was dark in color; and the gall-stones were removed, showing that this had been an old case of cholelithiasis with an acute typhoid infection. The gall-bladder had evidently been contracted; otherwise, it would not have been the size it was and so tense. The walls were thickened and it was in a state of acute inflammation. That it was a very acute case is evidenced by the fact that there were no adhesions outside of the gall-bladder. The gallstones were all removed, cholecystostomy performed, a drain was introduced under the liver and the wound closed in the usual fashion. The intense congestion of the gall-bladder was evidenced by the great amount of blood and serum which drained through this tube below the gall-bladder. The patient rallied from the effects of the operation and continued in a normal typhoid fever condition for about a week, when she suddenly had a typhoid fever hemorrhage from the bowel and became nearly pulseless. She rallied, however, and had no further intestinal hemorrhage, but when the tube was removed from the wound four days later, she had considerable hemorrhage from that source. The wound was carefully tamponed with gauze and there was no further hemorrhage.

I feel certain in this case that the pancreas

was also involved, and I believe that hemorrhage following these operations for gall-bladder trouble is due not so much to cholemia as to poisoning of the blood from pancreatic involvement. This woman had no cholemia. She has now recovered and is sitting up, with a wound about as large as the end of my little finger and about a quarter of an inch deep.

I report this case particularly for the reason that such cases are apparently less frequent than I had supposed. In looking up the literature I find that in the *Revue de Chirurgie*, Vol. XXXVII, 1908, page 828, Quenn reports thirty collected cases (apparently all he could collect) operated on during the acute stage of typhoid fever and during convalescence. Of these, 17 were cholecystostomies, with 13 recoveries and 4 deaths; 5 cholecystectomies with 4 recoveries and one death; 8 cases were diagnosed imperfectly and operation was more exploratory than otherwise, with 1 recovery and 7 deaths, or a total of 30 cases with 18 recoveries and 12 deaths, a mortality of 40 per cent. It is to be noted that 14 of these cases were operated on during convalescence, and of these 10 recovered and 4 died, a mortality of 28.6 per cent.

While no definite information is given as to the time when most of these operations were performed, from the fact that 14 were done during convalescence, it is to be presumed that very few were operated on before the ninth day; probably of the 30 cases less than six were operated on before the ninth day. The operation does not require unusual skill.

DISCUSSION.

J. G. Sherrill: Dr. Wathen's case is one of extreme interest. We all know that typhoid fever is understood to be the cause of certain cases of cholecystitis. In this case Dr. Wathen is confident that the patient had cholecystitis before the typhoid, and that the condition of typhoid excited the acute attack of cholecystitis by causing congestion of the mucosa.

Many cases of cholecystitis present symptoms very similar to those of typhoid. I recently saw a case, just before the death of the patient, in which diagnosis was in doubt as between typhoid and cholecystitis, one attendant strongly suspecting typhoid and the other equally strong for cholecystitis. When I saw the patient the diagnosis was comparatively clear, so far as the cholecystitis was concerned, but the strong feature of the case was the irregular temperature, running as high as 103 and then falling to 97. This together with bile in the urine, made the diagnosis clear. Diagnosis as to the presence of typhoid was not so clear, but I was inclined to believe that typhoid was not present because of

these sudden changes in the temperature. The patient died of an acute nephritis which came on in addition to the cholecystitis, or because of it. It may have been the lighting-up of an old nephritis, although examination of the urine when the doctor first saw the patient showed no albumin. Later examinations showed albumin and casts, increasing in quantity.

Dr. Wathen is to be congratulated upon the result obtained in operating on the patient out in the country and under such circumstances.

John R. Wathen, (closing): I have nothing to add except to express my belief that these cases of cholecystitis co-existing with typhoid fever, or following it, are of haematogenous origin instead of by direct communication. We know that in typhoid fever the system is full of typhoid germs. Further, if it were by direct tubular connection, we would have more frequently in these cases some cholemia, which we seldom have in typhoid fever cases. Frequently, during convalescence from typhoid fever, we have a sudden elevation of temperature and tenderness in the region of the gall-bladder, showing clearly that the patient has cholecystitis. We seldom see any jaundice. Therefore, I believe these cases, as a rule, are not started by direct tubular connection, but are haematogenous.

AN UNUSUAL CASE OF PUERPERAL ECLAMPSIA.

BY W. B. GOSSETT, LOUISVILLE.

On March 5th, 1909, Mr. G. called at my office and stated that his wife was suffering with a severe headache and asked me for something to relieve it, adding that his wife was six months pregnant. I told him that it was very difficult to prescribe under the circumstances, but I gave him some powders and told him to have her take two of them that night, and that if her headache was not relieved by morning I had better see her. On March 6th he called me to see her. I found her with her face swollen, limbs swollen at the knees and feet. I obtained a specimen of her urine, which looked very much like buttermilk. On March 7th, I was again called, but before I got there she had two convulsions and a third after I arrived, and I immediately put her under the influence of chloroform. I then had her taken to Norton Infirmary and called Dr. Zimmerman into the case. She had no more convulsions. I sent a specimen of her urine to Dr. Hays and he reported as follows: Specific gravity, 1008; small amount of albumin; urea, 1.8 grains to the ounce; few hyaline casts; small amount of pus.

When the woman was taken to the Infirmary on March 7th, she had a temperature of

98 1-5 degrees; pulse 82; respiration 22. She was at once put into a hot pack. At 10:30 a. m., she was given cream of tartar; at 11:30 she was given tincture of veratrum viride, 10 drops. At 1:00 p. m., her temperature was 99 3-5; pulse 100. At 1:50 she was given another dose of veratrum viride and her pulse dropped to 92; another dose at 3:30 brought it down to 80. At 4 o'clock it was still 80. She vomited at 1:50 and again at 4:00 o'clock. At 6:00 p. m. she had a large movement of the bowels and voided one ounce of urine. At 7:25 she was given a high saline enema and her bowels moved. At 8:10 she for the first time complained of headache. At 9:00 o'clock she was again put in a hot pack; her pulse at this time was 82. At this time she was given another dose of veratrum viride, and at 10:00 o'clock her pulse was 84, at 11:00 o'clock, 88, and by 12 o'clock it had dropped to 80. She then slept for about three hours, from 10:00 o'clock to 1:00 a. m., March 8th, and her pulse dropped to 78. She was given more veratrum viride—five drops this time. At 6:00 a. m., her pulse was 74. She was again given veratrum viride and voided 14 ounces of urine. During the 24 hours she had passed only 20 ounces of urine, and her bowels had moved twice. She was put on a buttermilk diet and given cream of tartar every three hours for several days. At 8:00 a. m. on March 8th, her pulse was 76; at 11:00 o'clock it was 70, and by 12:00 it had dropped to 68. At 6:20 p. m., she was again put in a hot pack, and during the evening she was given some calomel, and her pulse went up to 88. At 9:30 p. m., she was given veratrum viride and pulse dropped to 74. At 1 o'clock the hot pack was removed and at 12:00 her pulse had dropped to 68. She slept from that time until 6:00 a. m., March 9th, at which time her pulse was still 68. She was given sulphate of magnesia, and had a large movement of the bowels. She also voided 12 ounces of urine, making 16 ounces for the 24 hours, the bowels having moved four times. She had had one hot pack during the 24 hours and her pulse had staid below 80. At this time she was taken off the veratrum viride and put on Basham's mixture, and sulphate of magnesia in the morning. On the night of the 9th, she had a good night's rest and on the morning of the 10th, at 6:00 a. m., she had voided 56 ounces of urine during the 24 hours, and had 5 movements of the bowels. On the 10th, I started her on 1-30 gr. of strychnia, keeping up the cream of tartar and Basham's mixture. On the 11th at 6:00 a. m., she had voided, during the 24 hours, only 34 ounces of urine; the pulse had not gone over 84. On the 11th she was given a little oatmeal. The

Basham's mixture seemed to have the same effect on the pulse as *veratrum viride*. If the pulse was high and we stopped the mixture it would go up, and if we gave her Basham's mixture and 1-30 gr. of strychnia, within a short time it would go down. On the 12th, at 5:00 a. m., she had voided, during the 24 hours 67 ounces of urine, the pulse not having gone over 80, and most of the time in the neighborhood of 70. She was kept on buttermilk and oatmeal. She was taken to the hospital on the 7th, and on the 12th the swelling of the face and limbs had disappeared. She went along very nicely, and during the 24 hours ending March 15th at 6:00 a. m., she had voided 82 ounces of urine. During this time she was having hot packs once a day. She was taken home on March 19th. At that time I was still keeping her on Basham's mixture, but had dropped the strychnia and was giving her a more liberal diet. She had no further convulsions and did very nicely until March 30th, at 6:00 a. m., when she gave birth to a seven months child, which weighed 1 1-2 pounds. She had a normal labor with no convulsions, but for a week prior to the delivery her feet had been swollen. The urine had improved somewhat, but there was still a great deal of albumin in it. The child died on April 2. On April 13th a chemical examination of the urine showed no albumin.

This woman missed her menstrual period last month and she is no doubt pregnant a second time. I examined a specimen of her urine tonight and found the specific gravity 1020, but absolutely no trace of albumin. She is feeling very well; in fact, she says she has never felt better in her life. I believe she is now two months pregnant, and I hope she will get through with this one better than she did the other.

DISCUSSION.

Edward Speidel: It seems to me, from the meager history the doctor has given us, that this could hardly be a case of puerperal eclampsia. In the first place, the sixth month of pregnancy is rather early for eclampsia to begin. The sudden onset of the symptoms, with headache and convulsions, probably due to an acute nephritis.

As regard to the medication, I believe one thing that is urged in treatment by *veratrum viride* is that it shall be used in sufficient dosage to bring the pulse down to 60 and keep it there; no matter what quantity is given, it should be repeated at sufficiently short intervals to keep the pulse at 60. I believe the fact that the patient had no further convulsions could be taken as an indication that she had acute nephritis rather than eclampsia.

C. H. Harris: It seems to me, from the his-

tory Dr. Gossett has given us, that his patient had an acute uraemic condition engrafted on a chronic interstitial nephritis. In the first place, the woman had severe headaches and analysis of the urine showed that 56 ounces of urine passed in twenty-four hours contained over 100 grains of urea. He also said that every time he gave something to whip up the heart the urine increased in amount. Unfortunately, the doctor did not give us any information as to the condition of the heart, arteries, etc.

It seems to me, on the face of his remarks, to have been a very plain case of interstitial nephritis with an acute uraemia engrafted on it.

CONGENITAL ABSENCE OF VAGINA, WITH LEFT INGUINAL HERNIA, CONTAINING UTERUS, LEFT TUBE AND OVARY.

By WM. H. WATHEN, LOUISVILLE.

I recently operated on a woman, apparently normal and well developed in every way, for congenital absence of the vagina, and for a hernia in the left inguinal region containing a very large diseased ovary, a tube and a rudimentary uterus. This woman had been operated on eight or ten years ago by two distinguished surgeons in Cincinnati, who told her they removed the left ovary, and said she had a uterus. Her mother stated that she had menstruated once when she was 14 years old, but I am reasonably certain that this is not true. I did not know the woman had a hernia until she was ready to go on the operating table. I operated on her under protest, being urged to do so because she wished to get married, and her father had given his consent to the operation. I told her I was not positive a vagina could be established that would be sufficient for copulation, but that if she wished to take the risk I would do the operation.

I was unable to find a uterus upon examination with my finger in the rectum, but I detected some thickening to the left. At the point where the vagina should have been there was a little sinus admitting a very small probe three-quarters of an inch. Transverse incision was made, and by careful dissection which was a little difficult until I got past the middle of the vagina, the bladder wall was separated from the rectal wall until I had about reached the depth of a normal vagina. I then introduced a vaginal glass dilator which was allowed to remain about ten days without removal, afterward to be removed every few days, cleansed and re-introduced.

I then operated for the hernia, which was found to contain an ovary the size of a hen egg, which I removed with the tube. A uni-

corn uterus, more than half the size of a normal uterus, with greatly thickened tissues, was also lying in the sac. This was pushed back into the cavity and the wound closed in the ordinary way. She recovered from the hernia operation without suppuration. She had no trouble in recovering from the vaginal operation, and is now able to take out this dilator daily, wash it and re-introduce it. There has been no suppuration and no contraction of the vagina since it was established; in fact, the dilator is now more easily introduced than at first. I believe that, by continuing the use of the dilator, she will eventually have a vagina which can be used for the marital relation.

Upon looking into the new vagina through the glass dilating tube, the walls appear to be forming mucous membrane, but this is probably apparent, as it is doubtful if epithelial tissue can develop in the vagina from the bladder or rectal wall or from any remnant of Mueller's duct.

I did not attempt to put the neck of the uterus into the new vagina, for the reason that the woman had never menstruated and will never menstruate.

In this connection, I want to refer to a case which I had about 15 years ago in a woman who came here from Louisiana. She had a perfectly developed vagina about an inch deep, with an absence of the upper two-thirds, well developed uterus and ovaries. A sinus connected the os uteri with the open vagina, into which I introduced a small dilator, and with this and my fingers, separated the bladder from the rectal wall to the uterus.

As an evidence that there was congenital and total absence of the upper two-thirds of the vagina, when I had completed the separation my fingers went through an opening into the peritoneal cavity as large as my three fingers, through which immediately protruded a large amount of omentum and intestines, which were pushed back and the opening packed with iodoform gauze. She made an uninterrupted recovery. I advised the husband that she should not become pregnant, believing that she could not give birth to a child without separating the uterus from attachments below, thus forcing the child into the abdominal cavity. However, within three months she had become pregnant, and in twelve months I heard that she had given birth to a twelve pound baby without any trouble.

I had another case in a woman from Southern Kentucky, who was full-breasted and well developed in every way except that she had total absence of the vagina from birth. The uterus was also absent, but I

could make out rudimentary ovaries. Nothing was done for her.

Several years ago a splendidly developed girl of sixteen years consulted me on account of total absence of the uterus and vagina, but with ovaries sufficiently developed to be felt. Nothing was done for this girl.

It is claimed by Ballentyne, that where you have congenital absence of the vagina, there is also absence of the uterus and other genital structures. Ballentyne also states that there is generally an absence of development of the breasts. This has not been my experience, and I am inclined to believe, notwithstanding the fact that Dr. Kelly, who is an authority on the subject, differs with me, that some of these women who have ovaries and a rudimentary uterus with total congenital absence of the vagina, can be restored to a condition that will enable them to have sexual connection, if we will operate and allow them to wear a glass tube indefinitely. With gauze packing I do not believe the results were so good, but a glass tube can be worn for an indefinite time. The glass dilating tube must be about four inches long and one and a quarter inches in diameter.

ANGIOMA OF THE FACE.

BY JOHN R. WATHEN, LOUISVILLE.

I will have to apologize for not having my patient here tonight. I operated on this child last Thursday and it was such an heroic type of operation, and the shock was so severe that it was impossible to take her from her bed today.

This girl, seven years of age, was brought to me from West Virginia, with a history that, when born she presented an angioma of the lip which had increased in size until, when I saw her, it was quite pendulous, hanging down below the chin, her mouth was turned almost in a reverse angle and the nose was pushed to one side. It was purplish red in color, pulsating and showed every evidence of having an enormous arterial supply. Four surgeons in the neighborhood in which she lived had refused to operate on the case, and at first I thought I would have to make the same excuse, but, after promising nothing to the father of the patient, I made an attempt to remove the growth.

In order that what I shall have to say may be perfectly clear to you, I have drawn on the blackboard a sketch of the condition which presented. Naturally, the first thing I did was to ligate the external carotid artery, thus cutting off the arterial supply from that side. Next, I lifted up this pendulous mass and pulled it out, and then slipped a clamp from this angle up the side of the

jaw to an area that was free of the tumor. Then, by pulling the tumor in this direction, I placed another curved clamp over in this direction and was able to make the points almost meet. With the arterial supply now cut off, I had an immense venous anastomosis over the side of the nose. I could not clamp each of these vessels because of the immense arterial supply, so, after cutting away the tumor which was larger than my fist, I placed in some cobbler's stitches, locking off all the hemorrhage, both venous and arterial; then, when the clamps were removed the area was free from hemorrhage. After placing these lock stitches, I sutured, in the usual way, all this area and the portion where the tumor was removed from the upper lip. The patient left the table in profound shock, not so much from hemorrhage as from other things, particularly respiration. Since then the wound has begun to heal. These lock stitches were only temporary, of course, and were removed after eighteen hours in order that necrosis might not develop in this area.

If any of the members have any suggestions as to a method of approaching a tumor of this kind different to that I employed, I will be delighted to hear them, because it was really the worst fight with hemorrhage that I have ever had to contend with.

DISCUSSION.

J. T. Dunn: Dr. Wathen is to be congratulated upon the results thus far obtained in his case. I saw a similar case except that the condition was not on the face. This was an angioma or an angio-sarcoma on a child's arm, covering the deltoid. Dr. Wimp saw the case first and then Dr. Dugan saw it and, as I understand, they declined to operate on the child who was only two years of age. The tumor was very much like the one Dr. Wathen has described, being of very small caliber at birth and gradually increasing until it became almost as large as an orange. The case came to me for X-ray treatment. I instituted this treatment and continued it for five or six weeks and had the satisfaction of seeing it disappear. The child came to me with a diagnosis of sarcoma. I believe, more correctly speaking, it was an angio-sarcoma.

Herbert Bronner: I would like to ask Dr. Wathen whether or not this would be a good case for the Wyeth method of injection of hot water. At a society meeting recently, the subject of angiomata was brought up and some doctor reported a case in which he had operated on a very young child, doing what he thought was a complete removal of the growth, but in a few months it returned. The second time he used the Wyeth method and, up to date, which is several months since the operation, there had been no recurrence of the trouble. I would like to

know if Dr. Wathen's case would have been a suitable one for that method.

John R. Wathen (closing): Answering Dr. Bronner, I will say that the Wyeth method of injection of hot water is a splendid method for small tumors, but if you could have seen the large blood vessels in this case, I do not think you would have tried hot water; a big clamp with a catgut ligature was much safer.

SUCCESSFUL INTESTINAL RESECTION FOR MULTIPLE PERFORATIONS BY GUN-SHOT.

BY LEE KAHN, LOUISVILLE.

This man, 32 years of age, was on July 30, 1909, while ascending a flight of stairs shot in the abdomen, his assailant firing upon him with a revolver from the floor above. The bullet penetrated the abdominal cavity at the left nipple line, an inch and a half below the costal margin. He thereafter walked about five blocks, fell to the pavement and was then removed to the hospital. With a pulse of 134, respiration 26, and temperature 98 degrees, complaining of slight pain in the left lower abdominal quadrant, he was placed upon the operating table—an hour and a half after being wounded.

Under a general anesthetic a four and a half median incision was made, revealing a perforation of the small gut near the parietal wound. This was closed with a purse-string suture and further damage sought. The pelvis was filled with blood and contained an intestinal loop with five perforations. This part of the gut was excised and an end-to-end anastomosis made with continuous suture, I say continuous suture, but it was so only half-way around the circumference of the gut, it was then interrupted by a knot and resumed as a continuous suture throughout the remaining half. This precaution was taken merely to safeguard against too great a reduction of the caliber of the gut, which would probably have resulted from the puckering effect of a (single) continuous suture. This was re-enforced by a continuous Lembert suture and to make assurance doubly sure, an omental graft was placed over the line of union and so retained by one or two anchoring stitches. The redundant mesenteric fold was whipped over with an overhand stitch of cat-gut and the abdomen closed leaving a single rubber tube for drainage. He recovered without incident.

As to the offending bullet; no prolonged search was made for it; in fact, it was not really sought for as it gave us no concern. However, late in the convalescence of the patient, X-ray pictures were made. (I am indebted to Dr. Edwin Bruce for these skia-

graphs which localize the bullet in the musculature of the pelvis and show how the bony pelvis was furrowed by the ball in its downward course.) These pictures were taken late in the convalescence with no idea of doing anything to recover the bullet, it being our intention to let the ball alone as long as it lets us alone.

I have here the section of gut excised. A resection was made rather than an attempt at repair, because of the number and sizes of the perforations within this span (eight and one-half inches) of gut, because of the situation of these wounds on opposite sides of the intestinal wall, and the proximity of some of these to the mesenteric border—conditions which would unquestionably have seriously threatened the nutrition of the free fundal side of the bowel.

V. E. Simpson: What has been the condition of the patient's bowels since operation?

Lee Kahn: Good.

Dr. Trawick: I would like to ask Dr. Kahn whether he irrigated the cavity at the time of the operation or afterward?

Lee Kahn: I did not irrigate the cavity believing that it would have spread the extravasated fecal matter and that if such material was already in the recesses of the cavity it could not be washed out by irrigation. The futility of irrigation has been demonstrated by the unsuccessful efforts to flush the peritoneal pockets free of milk put in the cavity for the experiment.

REPORT OF CASE OF COMPLETE PROLAPSE OF UTERUS.

BY H. A. DAVIDSON, LOUISVILLE.

Mrs. G. A. H., age 30, presented herself in my office in September with the following history:

She had been married six years. Five years ago last July she gave birth to her first child. At the time there seemed evidence of a tear of the perineum, but the physician in attendance did not think it was necessary to remedy it. She was up on the tenth day. Four or five days following, a protrusion of the anterior wall of the vagina was noticed. About one year ago, protrusion of the posterior wall forming a rectocele was noticed. Five months ago, there was a complete prolapse. First, the anterior wall or cystocele would come down then the rectocele, and then finally the whole uterus with the tubes and ovaries would escape from the vagina. Strange to say, she had no trouble with her bladder, but she was subject to habitual constipation. For the last three months, there had been severe menorrhagia, but no dysmenorrhea. Upon examination I found the va-

ginal outlet very much relaxed, a tear in each calvus, and the perineum dropping backward toward the anus. There was decided cystocele, the bladder coming well down into the anterior wall. The rectocele was also decided, and fecal matter would often accumulate in the rectocele. The uterus was slightly enlarged, the cervix having a bilateral tear. The tubes seemed to be normal, the ovaries were slightly enlarged. The whole mass, that is, the uterus, tubes and ovaries, could be easily palpated outside the vagina. The patient was sent to the infirmary, and prepared for operation.

Operation: Curettage of the uterus; anterior colporrhaphy for the cystocele; perineorrhaphy to remedy the rectocele, and then a Ferguson-Gilliam ventro-suspension of the uterus by the round ligaments, the round ligaments being brought through the peritoneum-muscle and fascia on each side of the median line and then sutured in the median line.

Upon examining the adnexa, the tubes were found normal, but there was a small cyst attached to the broad ligament near the right ovary which required removal. The right ovary was also cystic and had to be punctured; left ovary was incised to let out a blood clot, and then sutured. The abdomen was closed in the ordinary way. Patient made an uneventful recovery, not even complaining of the pain which they usually have in ventral suspension of the uterus by the round ligaments.

In looking up the causes of complete prolapse or procidentia, or hernia of the pelvic contents, we find that they are classed under four heads:

1. Pressure from above.
2. Weakening of the uterine supports.
3. Increased weight of the uterus.
4. Traction from below.

In the majority of cases, I believe it is conceded that perineal tears through the levator ani muscles is the commonest cause of prolapse. The condition usually comes on gradually. First, there is a relaxed condition of the vaginal outlet. Next, cystocele, then with a constant straining due to constipation, a rectocele appears. Then finally the whole uterus is extruded from the pelvic cavity. This case is reported especially to call attention to the fact that all tears following labor, however slight they may seem to be should be repaired at once. It is not sufficient to separate the labia and look for a tear, but the fingers should be introduced into the vagina and levator ani muscle palpated in each sulcus. Without a digital examination, it is impossible to determine how severely a woman is lacerated.

DISCUSSION.

Wm. H. Wathen: There is no condition that will tax the ingenuity and mechanical skill of the gynecological surgeon more than complete prolapse of the uterus with rectocele and cystocele. I think the doctor is mistaken in his statement that the most frequent cause of complete prolapse with rectocele and cystocele is tearing of the constrictor and muscle. The majority of such cases that have come under my observation have not had a complete prolapse.

There are various methods of operation. The older methods that were adopted by Simms, Emmet and Thomas, have not proven successful. The later methods, adopted first by our German friends and then by many American surgeons, have given better results, but even with the best methods known these cases are often not cured; the trouble may finally return. Patients are constantly coming to me with a diagnosis of ruptured perineum. It is not the perineum that causes the trouble, but it is the destruction of the pelvic floor by tearing of the three layers of fascia between the rectal and vaginal walls, and probably the tendinous union of the transversus perinei muscle and the incurvation of the levator ani muscle. If we denude the mucous membrane, or simply cut out a segment of the vaginal wall behind and bring it together, we do not give the woman a pelvic floor. There is only one way to do that. Use any method so that you can get the vagina and rectum separated. Go out if necessary into the tissues beyond the rectum and vagina, taking up the connective tissue in front of the rectum, narrowing the wall from 1 1-2 to 2 inches. That is done by two or three number two buried catgut sutures. Then cut away the excess of tissue of the vaginal wall and suture the vagina with catgut in a vertical direction. This gives a perfect pelvic floor. For cystocele you will never accomplish anything by simple denudation of the vaginal wall and uniting the edges, or by resection of part of the vaginal wall and closing it. There is but one method and that is by putting the bladder high up in the pelvic cavity; this is done by separating it entirely from the vaginal wall and the cervix up to the peritoneal attachment to the uterus, where the neck of the uterus joins the body, placing your sutures so as to keep the bladder up, and then closing your vaginal wall, suturing it up to the neck of the uterus, nearly to the peritoneal attachment of the bladder. There are various methods of doing this; sometimes we use the broad ligaments or the round ligaments, but unless you elevate the bladder you will never attain success; and in addition to that you will probably have to do an operation of ventral fixation, especially if the woman is old and beyond the child-bearing period.

H. A. Davidson (closing): Dr. Wathen is

perfectly correct in saying that an anterior colporrhaphy or perineorrhaphy will never cure a case of this kind. The most important part of the operation I described was the ventral suspension of the uterus by the round ligaments, and I think this is better than ordinary suspension of the uterus as described by Kelly. The round ligaments make a better and more natural support and hold the uterus in better position than it is held in the ordinary Kelly ventral suspension.

Connection Between Suprarenals and Sexual Characteristics.—The case reported with illustrations by Bortz differs from others on record, as the patient was not a hermaphrodite, but an apparently normal girl of 16 who had been menstruating for a year. Menstruation suddenly ceased then and a full growth of beard and hair on the body followed, while the voice changed to a more masculine tone. Otherwise the girl was feminine in appearance. She soon succumbed to an intercurrent phlegmonous affection following several felons, and the suprarenals were found enlarged and degenerated, actual suprarenal struma in both, while the ovaries were atrophied.—*Archive fur Gynaecologie.*

STENOSIS OF THE PYLORUS IN INFANTS.

Pfaundler in the *Jahrbuch fur Kinderheilkunde*, Berlin, presents 57 pages of evidence to show that the clinical signs of stenosis of the pylorus may occur both with and without an actual organic basis.

TREATMENT OF SEVERE ANEMIA WITH TRANSFUSION OF SMALL AMOUNTS OF HUMAN BLOOD.

Weber, in the *Deutsches Archiv fur klinische Medizin*, Leipzig, reports 7 cases from Voit's medical clinic at Giessen in which threatening anemia was influenced to a remarkable extent by transfusion of only 5 c.c. of human blood. No benefit was observed in a number of cases of leucemia. The transfusion of this small amount, he states, is simple and generally harmless, but in a few cases there were signs of mild disturbances after the transfusion. It seems as if the blood from certain persons displayed more toxicity than from others, three patients injected with a certain blood all presenting the same transient disturbances. It was never noticed that when two or more patients received blood from the same source, that one presented disturbances and the other did not.

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ANESTHESIA.

The recent visit of Professor Jonnesco in this country has awakened a new interest in anesthesia and has not only attracted the attention of the profession, but through the daily papers has interested the laity.

Jonnesco's method differs from the older methods of spinal anesthesia in that he uses stovaine and strychnia instead of cocaine and injects into the cord high up as well as low down, according to whether he wishes respectively to produce anesthesia of the parts of the body high up, i. e., the neck, head and chest, or low as the abdomen and legs.

Dr. Corning, of New York, as early as 1885 demonstrated that surgical anesthesia could be produced by spinal injections.

Dr. Moorhead, (*Journal A. M. A.*, Vol. LIV, No. 4) who witnessed Jonnesco's demonstrations in New York City, and also in the West, has summed up the criticisms of this method as follows:

"First. Danger of interference with a highly organized section of the nervous system considering the possibility of (a) puncture of blood-vessels, leading to (b) spinal hemorrhage and areas of (c) spinal sclerosis or (d) syringomyelia later.

"Second. Uncertainty of reaching the arachoid space and hence failure of analgesia.

"Third. Psychic shock incident to operations where patients are conscious and appreciative of the sights and sounds occasioned by the occurrence.

"Fourth. The advantages do not outweigh the dangers known and unknown in a yet insufficiently tried radical departure from older methods."

Much attention has lately been directed toward the use of Nitrus Oxide gas combined with oxygen, or with ether, or both together.

Dr. Crele, who has combined the Nitrous Oxide gas with oxygen and reported over

five hundred administrations, claims that it is far superior to ether in that it does away almost entirely with the post-operative nausea, greatly diminishes the surgical shock, and the patients recover consciousness almost immediately after the withdrawal of the anesthetic.

Cunningham has introduced a method in which he gives Nitrous Oxide gas, ether and oxygen each following in the above order and calls the method "In sequence."

The apparatus he uses has an arrangement by which the gases are heated with hot water to avoid the refrigerating effect of the ether. Many new combinations composed mostly of ethyl bromide and other similar preparations are now marketed and largely used by the dental profession for short general anesthetics and seem to give almost universal satisfaction.

Chloroform once so popular in the South, has now almost entirely disappeared as a routine anesthetic in all the large clinics and is used only in exceptional cases.

The drop or open method of administering ether, when preceded by an injection of morphine and atropine, has given such universal satisfaction in all the large hospitals that we see little cause to wish for improvement.

Nevertheless, it is an acknowledged fact that there is much need for improvement along the line of anesthetics, and with the attention which has of late been directed toward this end, the future will probably bring forth some means of producing a general anesthesia with none of the dangerous or objectionable features of our present modes.

J. R. W.

OUR LEGISLATION.

The legislation in which the profession is specially interested is progressing favorably at Frankfort. The State Board of Health

Appropriation Bill has passed the Senate, been reported favorably by the House Committee on Public Health, and occupies an advantageous position on the calendar. The Abortion Bill has passed the House and been favorably reported in the Senate. The Vital Statistics Bill has been favorably reported in both Houses, and is a special order in the Senate. The Tuberculosis Sanatorium Bill has been reported favorably, and the Bill to increase the appropriation for the Jefferson County Sanatorium has passed the Senate.

In every county where the county society has done really good work along the lines of popular education there has been no difficulty in reaching the Senators and Representatives. The Legislature this year has been composed of unusually good men, and, while the condition of the Treasury has forced them to be extremely careful in matters of appropriation, it has been splendid to see the interest they have taken in everything looking to the welfare of Kentucky. The profession of the State can take an especial pride in the twelve medical members. These have been selected from the very best type of Kentucky doctors, and, by their active and intelligent participation in everything coming up for consideration, they have been able to wield an influence in legislative matters that has never before been possible to the profession.

The JOURNAL hopes to be able to publish some new laws of interest to the profession in the next issue.

TYPHOID COMPLICATIONS.

It would be interesting if statistics of all sequelae of typhoid fever could be kept. There can be no question but that we too frequently stop the treatment of those cases too soon after the febrile stage. It is just as important that a patient convalescing from typhoid fever should have the active and intelligent supervision of his medical adviser as during the acute stage. This is not because his life is so much endangered, but to avoid serious and annoying complications which prolong the convalescence or induce invalidism.

In a class by itself, and difficult to distinguish from the original disease, is the post typhoid sepsis, described by Delafield. In these cases the convalescing patient is overwhelmed by the mixed toxins of the typhoid and the pus forming bacteria. The temperature is rather low and the pulse rapid, as distinguished from the reverse condition in the original disease. These cases always look desperate and usually are, unless radical treatment is instituted early.

Such treatment consists in getting the patient out of bed, putting him on a good diet of solid and substantial food and stimulating him with relatively large doses of strychnine and whiskey.

Allied with, and usually a complication of, post typhoid sepsis is the acute inflammation in the central nervous system and the various forms of neuritis. Particularly when localized in the cord and in the motor nerves of the legs, this condition is a serious one. Like all the other forms of neuritis, this one yields readily to static electricity and hydrotherapy. This, like most other post typhoid possibilities, can be prevented by proper care both during the disease and during the six weeks necessary for proper convalescence. It has been well said that the typhoid patient is out of danger sixteen days after he has gotten well.

DR. ROBERTS.

The medical profession of Kentucky, as well as the Southern Surgical Association, are to be congratulated upon the elevation to the Presidency of Dr. W. O. Roberts, of Louisville, a son-in-law of the great Yandell. Dr. Roberts has easily stepped into that great man's shoes, and his selection is an honor not only to a great surgeon, but also to one of the best men and best doctors anywhere. The JOURNAL extends its congratulations to all concerned.

OUR BETZ ADVERTISEMENT.

It is with considerable pleasure that the JOURNAL is now carrying the advertising announcement of the Frank S. Betz Company, of Hammond, Indiana. The editor of the JOURNAL has purchased several thousand dollars worth of material from this firm, every item of which has been as good or better than represented, and the saving in cost has been remarkable. If any of our readers have not already been purchasing their medical and surgical supplies from this house, the JOURNAL would suggest that you can save enough money every month to pay your subscription for the next ten years by writing them for their latest catalog and asking them to put you on their mailing list.

Gonorrheal Phlebitis.—Zesas reports a case and commends immobilization in treatment, the limb being raised to control the edema. The patient was a man of 30 with chronic gonorrhea which had been rebellious to all measures for a year. The phlebitis developed suddenly after a long walk.—Archives Generales de Chirurgie, Paris.

SCIENTIFIC EDITORIALS.

TUMOR OF THE BRAIN.

The *Medical Record* of May 23rd, 1909, contains an article by Dr. W. W. Graves, of St. Louis, reporting a case of Jacksonian Epilepsy. Operation revealed a tumor in the left fronto-parietal region. It was a thin-walled cyst of the dimensions and configuration of a hen's egg. The upper portion of the cyst was removed. Surgically the subsequent course was uneventful, but the post operative phenomena was remarkable, consisting of a succession of Jacksonian attacks lasting for several hours. Complete aphasia set in forty-eight hours after operation and the woman could not understand what was said. Communication was entirely by pantomime. This condition was found to be due to oozing under the flap, which was removed with entire disappearance of aphasic symptoms. The ultimate result was entirely satisfactory. (Abstract from *Journal A. M. A.*, Vol. L, P. 1939.)

In the *Journal A. M. A.*, Vol. LI, P. 1061, Dr. Wharton Sinkler, of Philadelphia, reports three cases of cerebellar tumor operated upon. One, a cyst, recovered: total loss of vision ensued. One was a bilateral tuberculous consolidation situated in the cerebellar substance and was not disclosed at operation, but was found at autopsy. The third was not operated upon and died in delirium. This patient's symptoms dated from an attack of insolation ten years previous. Chief complaints were headaches, vomiting and disturbance of vision, and incoordination of movement. At autopsy a tumor was found situated in the outer portion of the left lobe to which it was loosely attached. The tumor proved to be a fibrosarcoma. In the discussion which followed the reading of this paper Dr. Archibald Church, of Chicago, briefly referred to seven cases which had come under his observation. The report is very illuminating and I submit a copy without alteration or apology:

"Dr. Archibald Church, Chicago: Out of seven of my cases in which operations have been done, four patients have made what might be called perfect recovery. In the first case, which Dr. McArthur operated for me and which was seen by Dr. Jones in St. Luke's Hospital just after the operation, we found a hemorrhagic cyst, and there was a clear history of cerebellar hemorrhage. This patient recovered and worked as a laborer practically for years, but has disappeared.

"I did not favor operation in the second case. The patient was operated on in St. Louis by Dr. Mudd under the direction of Dr. Fry. The tumor was removed and the

man lived over two years; during much of the time he served as proprietor and editor of a newspaper.

"The third patient came to me from Wisconsin, a clergyman, who presented symptoms of cerebral tumor. Dr. Brower and Dr. Bassoe confirmed my diagnosis. The patient was operated upon by Dr. Bevan, who found a large tumor of the cerebellum, but did not remove it. A couple of weeks later, on my urging him to do so, he re-opened the wound and removed the tumor. The man has been conducting the services of a country parish ever since.

"The fourth case was that of a boy who received an injury in the head by swinging against a corner of a house in a rope swing striking the back of his head. Some weeks afterward he complained of headache. When he came to me he had double choked disc and other manifestations of cerebellar tumor. An operation was done by Dr. Van Hook, an apparently gliomatous cyst being uncovered and scraped out. Unfortunately, the scrapings were lost, so that the confirmation of the pathologic condition was not made. The boy is still alive, entirely blind, but with no recurrence. The other three patients died directly, but four recoveries out of seven give one reason to hope that the prognosis is not so bad in properly selected cases when operation is done early, as the larger statistics might indicate."

In the same discussion Dr. Julius Grinker, Chicago, reported two cases, one of which escaped recognition a whole year after the original symptoms developed, and death followed operation. The other was diagnosed as neurasthenia by good neurologist and finally was operated upon by Dr. Harvey Cushing, who found and removed a cerebellopontile fibroma. The operation was, however, too late to save the patient's vision.

Relative to tumors of the cerebellum in children the following abstract from the *Archives Generales de Chirurgie Paris* appears in *Journal A. M. A.*, April 24, 1909, Page 1367. Berthaux and Burnier review the history of operative treatment of tumors in the cerebellum and discuss the etiology and pathology, diagnosis and treatment, especially for cerebellar tumors in children. They have collected fifty-six operative cases of these tumors in children and summarize the details, commencing with one reported by Berthaux. The patient was a boy of nine with a syphilloma in the left lobe of the cerebellum. The headache diminished under vigorous specific treatment, but the other symptoms persisted and a posterior craniectomy was done, but the removal of the tumor was postponed for a second operation. The child did not rally and

succumbed three hours later. In thirteen cases of cyst in the cerebellum all but one of the patients recovered after operative removal of the cyst, as also in case of hydatid cyst. In 17 cases of glioma in the cerebellum in children, five were cured by operation, but one of these has developed recurrence since. In nine cases of tubercle in the cerebellum one of the patients, a youth of 18, was restored to comparative health by removal of an irregular tubercle in the left lobe of the cerebellum; the other patients all died. In nine of fibroma or sarcoma, two of the children were cured by removal of the tumor; seven succumbed during or soon after the intervention. In four cases of probable tumors one of the patients died of hemorrhage, but the others recovered after puncture and draining, although no tumor was discovered. In two other cases in which the children did not long survive the operation, the tumor was not examined after its removal. Out of the entire total of 56 cases there are thus seventeen in which the children were cured by the operation. Great improvement was obtained in a few others. In the thirteen cases of cysts the operation was done too late to save the eyesight in five cases and these children were and remain blind.

Speaking of the "Operability of Brain Tumors" generally, Frazier, in his article, *Journal A. M. A.*, Vol. LII, P. 1805, quotes estimates based on post-mortem statistics by Knapp, 4%, Walton 7%, Tillman 6.5%. Frazier also quotes Horsley as saying: "Post-mortem records can never teach what the careful study of the living tumor exposed in an operation can demonstrate, since in almost every case the former condition is what we may term inoperable." Frazier says, "if my own experience is any criterion, I have seen but seven or possibly eight cases all told in which the tumor was operable. These do not include cysts, tuberculoma, or gummata. The operable tumor must be accessible, that is on or just beneath the cortex and sufficiently well defined to enable one to determine its limitations. The inoperable, on the other hand, is a deep-seated or infiltrating growth. No attempt should be made to remove a growth of an excessively vascular infiltrating type. The attending hemorrhage may prove fatal and if the patient survive and the growth be imperfectly removed recurrence will be rapid and the expectation of life no longer than after a decompression if as long. Relative to the surgery of the posterior fossa, Frazier formulates the following conclusions: (1) Generally speaking exploratory operation and decompression operations in the posterior cranial fossa are fraught with more risk to the patient than are those in any other part

of the brain. (2) If added to exploration an attempt is made to remove the tumor the risks are increased to such a degree that I consider such attempts where the tumors are malignant and adherent to adjacent structure as absolutely unjustifiable. This statement refers particularly to tumor of the cerebello pontile angle and to the malignant, especially the endotheliomata. (3) The great majority of tumors are situated in the pontile angle, at least if my experience does not differ very radically from that of other operators. To express this relative frequency more definitely, I should say that in my whole series of exploratory operations for subtentorial lesions there was but a single case in which the tumor was discovered in the substance of either hemisphere. (4) While assuming a skeptical attitude regarding the operability, so to speak, of tumors in this region, I am most optimistic as to the results of decompression. In the subtentorial more than the pretentorial lesion is the decompression clearly indicated once the diagnosis is made. (5) Lumbar puncture as a diagnostic or therapeutic measure should never be resorted to. The number of fatalities from this apparently harmless procedure are so great as to make it absolutely prohibitive.

Relative to early diagnostic symptoms, Dr. Harvey Cushing is reported in the *Journal A. M. A.*, Vol. LIII, P. 316, as stating that almost every patient brought for operation after diagnosis of brain tumor had been finally certified by the often long delayed ophthalmoscopic changes has at an early stage of the trouble been regarded as hysterical or the subject of some psychoneurosis. Following Charcot an impression still holds sway that a more or less contraction of the field (visual) for form with a more or less complete color reversal is the great essential sign of hysteria. These alterations of the visual field are no less characteristic of brain tumor. This statement is very much elaborated by its author and a lively discussion follows, as can be seen by any one wishing to peruse the original. All the reported observations tended to confirm Cushing's proposition. I beg leave again to refer the reader to the article upon choked disc by Dr. Wm. G. Spiller in the *Journal A. M. A.*, Vol. LII, Page 272.

Some interesting tables of statistics are furnished by Drs. Diller and Gaub, of Pittsburgh, in the *Journal A. M. A.*, Vol. LIII, Page 364. Regarding the progress illustrated by these tables, Dr. Frazier is quoted as follows: "From review of these tables one is struck at once with the progress that has been made in this field of surgery from every point of view. The percentage of tumor

is yearly growing larger; the percentage of partial or complete recoveries is larger; the mortality has fallen from 42 to 35.8%. We believe the results of surgical intervention on cerebellar hemisphere will continue to improve, if not generally, at least in the hands of those who are giving this subject especial thought and attention. Drs. Diller and Gaub review the literature and report a successful removal of a cerebellar tumor; "the patient surviving the operation exhibiting complete relief from headaches, vomiting and very great improvement of vision and considerable improvement in his gait. The pathologist reported the tumor myxosarcoma tale angiectoma."

In discussing the case of Diller and Gaub, Dr. B. Sachs alluded to some valuable points of early diagnosis: (1) The attitude of the head. For the most part the head inclines toward the side on which the tumor is situated; (2) vertigo on looking to one side or the other becomes extreme if the person looks to the side upon which we believe the tumor to be situated and where it is subsequently found; (3) the occurrence of intense nystagmus; (4) slight ataxia of one member as compared with the member on the opposite side of the body.

Dr. George B. Moleen, of Denver, mentioned the fact he had diagnosticated cerebellar tumor in two cases by aid of the X-ray. Unilateral sweating is also mentioned as a symptom in the case reported. It is worthy of note that in Von Eiselberg's clinic only 23 cases have been operated on in the past six years. *Journal A. M. A.*, Vol. LIII, P. 491.

Relative to symptoms and diagnosis the following abstract in the *Journal A. M. A.*, Vol. LIII, Page 652, is interesting. Dale describes the case of a lad who suffered from brain tumor but had none of the typical symptoms of cerebral compression. His symptoms were gastro-intestinal irritation up to a few hours before death. The lad died of respiratory failure. The tumor was very small and situated in the fourth ventricle, attached to its roof to the right of the median line and directly over a point in the floor a little posterior to the center. It was an endothelioma.

With reference to situation of tumor, the following abstract is worth noting: *Journal A. M. A.*, Vol. LIII, P. 1143, Osti concludes his study of this subject with the summary of 54 cases from the literature to confirm his assertion that early psychic symptoms predominating all other symptoms of a tumor are of the greatest importance for the diagnosis of a tumor of the frontal lobe.

Leslie Paton, of London, after a study of 400 cases from the records of the National

Hospital for the paralyzed and epileptic in London, reaches the following conclusions: (1) When a tumor directly or indirectly exercises constant pressure on the chiasm or on the optic nerves it is likely to cause primary atrophy without any preceding edema of the disc; (2) the absence of optic atrophy is not infrequently indicative of meningeal tumors without involvement of the brain substance. There are two regions of the brain, the pons varolii and the white matter of the cerebral hemisphere, in which tumors frequently develop without causing optic neuritis. (*Journal A. M. A.*, Vol. LIII, P. 2008.)

Spiller confirms the observations of Paton in the course of quite an exhaustive essay in *Journal A. M. A.*, Vol. LIII, Page 2078. In this essay the existence of color blindness as associated with brain tumor is discussed at some length and ascribed an important place in the symptomatology of the disease. Some interesting case reports are included in this article. Immediately following Dr. Spiller's essay (P. 2086) is one by Dr. T. H. Weisenburg entitled, "Extensive Gliomatous Tumor, Involving the Cerebellum and the Posterior Portions of the Medulla, Pons and Cerebral Peduncle and the Posterior Limb of One Internal Capsule." The patient's symptoms lasted two years. In the discussion which followed Dr. Max Nonne of Hamburg, Germany, spoke of the pulse rate in brain tumor as being either normal or accelerated; also alluded to the feminism which accompanies tumor of the hypophysis: "The voice resembles that of a woman or an eunuch. The beard falls out, the hair on the genitalia disappears, the penis becomes shrunken and incapable of erection, while the testicles waste away. These symptoms are pointed out by all French and German authors as being of common occurrence in the cases in which the gland itself has been removed, and I have observed such a case clinically and microscopically." After reviewing the literature as well as my limited opportunities would permit, I am impressed that the surgery of the cranial cavity has but seen the dawn of its era and great achievement awaits the earnest worker and patient investigator in this field.

G. A. HENDON.

CEREBRAL TUMORS.

Almost every known variety of tumor has been found in the brain. All told, the infectious granulomata are by far the most commonly recorded type. (Keen's Surgery, Vol. III, P. 220.) The above reference is taken from the most comprehensive, concise and clear presentation of this subject I

have seen published. The following varieties of tumor are enumerated:

Tuberculomata	Glioma
Syphiloma	Cystic tumors
Endothelioma	Carcinoma

In *Progressive Medicine* for September, 1909, Dr. William G. Spiller treats instructively of the newest novelty of cerebral pathology—tumor of the pituitary gland. Both Dr. Harvey Cushing, in this country, and Sir Victor Horsley, of England, have operated successfully upon this body. V. Eiselsberg and V. Franke Hochwart are mentioned by Spiller as having successfully invaded what was thought by the ancients to be the sacred precincts of the soul. Acromegaly is the main indication for intervention and the most conspicuous symptom of tumor of the hypophysis cerebri. In women, as pointed out by Spiller, there is cessation of the menses, and in men loss of genital function associated with excessive adiposity. The article of Cushing upon the "Surgery of the Pituitary Gland" has already been reviewed in this series. Spiller also reviews the literature and his personal experience upon tumors of the Gasserian ganglion, the temporal lobe, cyst of the occipital bone, tumor of the parietal lobe, tumor of uncinate gyrus, the fourth ventricle, frontal tumor resembling paresis, tumor of the corpus callosum, and amblyopia in tumor of the motor area.

I shall endeavor herein to offer a collection of the salient points in Dr. Spiller's review: (1) Tumor of the Gasserian ganglion. No case of cure is to be found in the literature, though such an achievement through surgery is not thought to be impossible. Few cases have been found to exist at autopsy. Two cases were reported by the author in *Johns Hopkins Medical Bulletin*, April, 1909, P. 105.

(2) Tumor of the Temporal Lobe: The symptoms briefly stated are, partial paralysis, ptosis in common; unilateral mydriasis is usually present. Occasionally the palsy of the limb is on the side of the tumor; athetosis, tremor on the paretic side, disturbances of hearing, taste and smell; neuralgia of the fifth nerve and disturbances of vision are other symptoms.

(3) Cyst of the Occipital Bone. One case is cited from Borchardt; the symptoms prevailed for two years and began with migraine, which persisted. He died in stupor. The cyst communicated with an enlarged left lateral ventricle.

(4) Tumor of the Parietal Lobe: In the case studied by Mills and Frazier, the symptoms were left lateral homonymous hemianopsia, moderate hyperesthesia of the left extremities, hypostereognosis, some ataxia with atactic tremor of the left upper limb; im-

pairment by incoordination in the movements of the left limbs and papilloedema.

(5) Tumor of the Uncinate Gyrus: This example was furnished by Dr. C. K. Mills in an interesting contribution in *Journal A. M. A.*, September 12, 1908, P. 879. The patient had attack in which she had sensations of taste and smell recurring in the same way. She could not tell what the taste and smell was, although she sometimes thought she was just about able to do this. The smell was somewhat like that of a flower, but she could not name the flower. These sensations were at times accompanied by the smacking of the lips and chewing movements. Immediately after the gustatory and olfactory aura she became more or less dazed. At autopsy a large glioma was found in the lower part of the left cerebral hemisphere involving the uncinate hippocampal and fourth temporal convolutions. Mills, in the contribution herein referred to, gives a synopsis of seven cases collected from the literature in addition to his own, all bearing upon the tumor in the region of the gyrus; all presenting symptoms of gustatory and olfactory disturbance.

(6) Tumor of the Fourth Ventricle: "Glioma growing from the ependyma of the ventricles is a rare tumor, but when it occurs is likely to be in the fourth ventricle." The diagnosis cannot be made with certainty, for a tumor of the fourth ventricle gives the symptoms of a cerebellar growth. Nystagmus is a common sign of tumor of the cerebellum, but there is a form of hereditary nystagmus that must be recognized.

(7) Frontal Tumor Resembling Paresis: A case is cited from a contribution by Dereum, *Journal of Nervous and Mental Diseases*, 1908, P. 438. He describes a clinical case of a clergyman who exhibited the usual paretic symptoms; at necropsy, a tumor (sarcoma) was found which involved both frontal lobes to an equal extent.

(8) Tumor of the Corpus Callosum: A case is reviewed in which apraxia was the conspicuous symptom and seems to be the one of localizing value.

In the *American Journal of Medical Sciences*, November, 1908, P. 712, Dr. Spiller reports two cases of tumor of the Gasserian Ganglion. Each case came to operation and both died. The main complaints in both were blindness, headache and vomiting.

In the present December issue of *Annals of Surgery*, Dr. Harvey Cushing presents some results of his further studies of the hypophysis cerebri. A case is reported in which he approached the gland through a median route with entire satisfaction. His subject was one of acromegaly. Photographs three months after operation show a most

startling alteration for the better.

In *Progressive Medicine* for March, 1909, Frazier, writing the article on "Surgery of the Brain," refers to Verco's case of fibrocartilaginous tumor of the dura mater weighing 238 grains. The patient had had several definite convulsive attacks in 1904 and 1905, and for months there had been a history of headache and vomiting; there was double optic neuritis. The operation was done in two stages, two weeks apart. After the operation the patient became hemiplegic and at the time of the report the optic neuritis was disappearing, although the patient had not recovered her vision. The same author evacuated a hydatid cyst in the region of the Rolandic fissure. The patient was a boy, aged fourteen years, with partial paralysis of the right side of three months' duration associated with frontal headache, occasional vomiting, failure of memory and diplopia. There was definite asymmetry of the skull, the left frontal to parietal region being very prominent; sensation was dulled on the left side of the face—with slight paresis there was alternating internal non-paralytic strabismus with diplopia and double optic neuritis; much weakness of right arm and leg was found. The patient survived the operation only eight days and at the autopsy other cysts were found in the frontal region in the right cerebellar hemisphere and in the heart.

In the *Journal A. M. A.*, Vol. XLIX, P. 2059, Dr. William G. Spiller reports two personal cases and reviews four cases from the literature of the condition termed *hemicraniosis*. The name was first used by Bressaud and Lereboullet. The condition is described as being a hypertrophy localized exclusively to a half of the cranium. The first case of these two observers is described briefly as follows: Epileptic convulsions: the enlargement of the head was first noticed at the age of two months, and it was slowly progressive and without pain. The patient had no headache, although he complained of a sense of heaviness in the head. His vision was good. He had no vomiting. The interesting features of the case was the front parietal exostosis. The prominence did not extend into the occipital region, nor beyond the median line. There was also a supraorbital enlargement of bone, but rest of the face was not affected.

The second case was in a woman whose cranial hemihypertrophy dated from childhood; also signs of brain tumor, the latter of two and a half years' duration. She had also exophthalmus. The hemihypertrophy was right sided—slight in the superior and inferior maxillary bones, more pronounced in the frontal bones, and enormous in the

fronto-parietal region. The slope of the prominence extended to the other side of the cranium so that the enlargement was not strictly confined to one-half of the skull. It was hard and painless. The necropsy showed the entire inner portion of the right side of the dura was covered with tumors of different size (angiolithic sarcoma). The largest of these had made a depression for itself in the brain. The inner left side of the cranium was not abnormal, but on the right side of the calvarium the dura was adherent in places, the bone was irregular, and tumors were found within the dura.

Parham and Goldstein have reported a case of hemicraniosis in a woman whose only signs of intracranial disease were hemiplegia and mental depression. An exostosis the size of a walnut was in the right parietal region when the skull was opened; the bony tumor was found to protrude on the inner side of the skull and it had caused a depression in a tumor beneath it. The tumor was the size of a small orange and involved the greater part of the motor zone and a part of the frontal lobe. "In both my cases," says Spiller, "the enlargement was on the left side and in one case was strictly unilateral and in the other almost confined to one side, although it implicated the other side of the cranium to about the same extent as did the enlargement in the second case reported by Brissaud and Lereboullet. In both my cases an endothelioma was found growing from the dura and pushing the brain before it; in both operation was attempted, but in the first case the bone of the cranium was so implicated by the tumor and hemorrhage on this account was so profuse that all attempt to remove the tumor had to be abandoned. The disappearance of nearly every symptom after the first operation when the skull was opened in the second case was the result of decompression, and relief was obtained for several months. I think it a fortunate thing that the dura was not incised at the first operation, as the tumor would then have been discovered and its removal attempted. The time given to the patient for complete recovery after the first operation made him more vigorous to endure a second and the tumor was removed later with comparatively little danger to the patient. The cranium in my second case was very dense but was not infiltrated by tumor; had it been, as in the first case, the result of operation would have been grave."

The following is a brief summary of the history of the second case, reported by Dr. Spiller, and successfully operated upon by Dr. Frazier: Male; aged 42; chief complaint an enlargement in the left parietal region, right sided weakness, staggering to some ex-

tent; some motor aphasia; slow indistinct speech, possibly sensory aphasia.

History: Six or seven months ago he observed a gradually increased swelling in his cranium over and anterior to the left parietal region. This was accompanied by severe left-sided headache. Several weeks later he found himself unable to articulate correctly, and stammered and mouthed his words indistinctly when speaking. There was no weakness in the arms or legs, but he has felt numb in his right arm and leg occasionally, staggers rather badly when walking, otherwise there have been no sensory disturbances. His sight, so far as he knows, is good, but he cannot read well as gradually the lines appear to waver on the page. His memory is not nearly so good as it was. When speaking he has definitely in mind what he wants to say, but is slow in getting words to express himself, and then speaks hesitatingly and with apparently great effort. His voice, he believes, has grown weaker. He has no defect in hearing.

Operation: A section of bone comprising the outline of the tumor mass was removed by means of trephines and chisels. It was greatly thickened. The dura was found somewhat thickened but was not opened, as the abnormal thickness of bone seemed to be sufficient to account for the symptoms. The man made an excellent recovery from ether and was only slightly nauseated. Microscopic examination of the bone removed showed no appearance of tumor cells. The patient made almost a complete recovery, attended to his business as formerly and seemed well, but had some return of symptoms a few months later. At a subsequent operation the dura was opened and a tumor was found and shelled out. "Its position must have been above Broca's area and in front of the central fissure." His recovery was complete five months after operation.

In the *Journal A. M. A.*, Vol. XLIX, P. 2129, is a report by Dr. J. L. Atlee and Dr. Chas. K. Mills, of a "Brain Tumor With Jacksonian Spasm and Unilateral Paralysis of the Vocal Cord and Late Hemiparesis and Astereognosis." The growth was successfully localized and removed. This article is recommended to the reader as a source of orientation upon the subject under discussion. This subject will be resumed in a subsequent contribution. G. A. HENDON.

Bromoform Poisoning.—In the case reported by Benson, the bromoform was administered to a child ill with whooping-cough. The maximum dose was one minim. The author fails to mention the number of doses given, but cautions against the use of the drug.—*British Medical Journal*, London.

ORIGINAL ARTICLES.

THE ORGANIZATION'S "FIRING LINE*."

By VIRGIL E. SIMPSON, LOUISVILLE.

In careful outlook of the future, one can easily divide possible policies into three classes; the legitimate, the questionable and the dangerous. We shall have time for but a cursory inquiry into the first.

CRUSADE FOR MEMBERSHIP.

Would that it were trite and unnecessary for us to consider with the individual doctor the importance of, and benefits to be derived from, active co-operation with the official organization of the medical profession in this State. A review of the report of the Secretary-Editor's, published in the *JOURNAL*, October 1st., 1909, shows these lamentable facts. After deducting ineligible, derelicts and disreputables, there is "a total of twelve hundred and twelve physicians now in active practice in the State, who are still not members of any medical society, and, what is far more astonishing, 516, or nearly one-half of these non-members, are young men, having graduated since 1903." And further along in that report is the statement that nearly one-half of the members of the State Association are not affiliated with the A. M. A. So, the question of organization remains an important one with county secretaries.

The Northern Tri-State Medical Association printed on its programmes, in 1906, the following:

"The man who does not attend medical meetings should be classed with the quacks. If he is above the average he should give the society the benefit of his wisdom; if he is below, he should go and learn. If you have a good idea, bring it with you; if you have a fallacy the sooner you get it knocked out of you, the better for suffering humanity. The public would do better to inquire: "Do you attend medical societies?" than "Where did you graduate?"

In the absence of efficient organization and ample funds, we can do little more than adopt resolutions and appoint committees which can only make recommendations. The first fifty-five years' existence of the A. M. A. is an example. Take its work, through its Council on Chemistry and Pharmacy, which will be referred to later under another topic, as an illustration; so long as we wrote a few editorials and passed harmless resolutions, the great proprietary interests thought our organization was utilitarian, philanthropic, splendid, but, just as soon as funds were pro-

* Read before the Association of County Secretaries, Louisville, Oct. 19-21, 1909.

vided and organization was recast, and their dishonesty, and even criminality, exposed, then began to go up criminations, abuse and maranathas. The Lourdes Pilgrimage is another evidence of the futility of protest. The French physicians are almost unanimous in their condemnation of the hypocrisy with which the management of this notorious place is clothed; Zola described the conditions and ridiculed the flimsy claims to continued confidence; but the pilgrimage goes on. Samuel Hopkins Adams, in "The Great American Fraud," says, in speaking of a remedy for the jeopardy in which the health of the public is being placed by the patent medicine interests:

"Legislation is the most obvious remedy, pending the enlightenment of the general public, or the awakening of the journalistic conscience."

The Jefferson County Medical Society read papers, passed resolutions, appointed committees to wait on health authorities, and what-not, all to no avail, in regard to a pure milk supply available for the sick in the City of Louisville. But, when an organization sufficiently strong to command a hearing and, by its support, to make it worth while to milk producers, was effected, certified milk became a life-saving and health-giving reality.

A sanely aggressive organization of our profession is a necessity and the crusade for members must go on persistently, unceasingly, until the organization becomes a Colossus in its service to humanity.

THE SOCIETY'S PROGRAM.

The fundamental reason for any medical organization's existence is lodged in its scientific work. Divorced from this, it becomes a pawn susceptible of being moved by any selfishly ambitious and influential member into an arena of politics, over which Dante's inscription above the Gates of Inferno applies with striking applicability to the medical man.

The question of attendance gives the Secretary more concern, probably, than ought else; he views the dwindling ranks with sinking heart. I am compelled to admit that an occasional change in the intellectual menu whets the appetite, yet the meat upon which the interest must be fed is scientific work. If men attend a society to be amused or fed habitually, the organization were better dead. An occasional literary production is not an unwelcome interloper, but for such as a steady diet the medical man will eventually seek the literary and historic clubs, where he is offered the pleasure of a mental feast coupled with the opportunity of cultivating friendships which often prove valuable assets, and most doctors are obliged to wrestle

with the query, "Wherewithal shall he be clothed and fed?" Or, in the absence of such club, he prefers to remain in the quietude of his own home, seeking companionship with Shakespeare, Scott, Thackery, Milton, Longfellow, and the others, who can give him the best that has ever been penned. Hence, in the last analysis, the very life of the medical society depends upon the professional work done in it by its members. A lamentable misconception obtains among the profession as to what is proper and fitting for an essay. The honest and modest man will hesitate to prepare a paper along a certain line unless he has done some research work, or has had considerable experience; he dislikes to appear in the attitude of having merely compiled and condensed; he fears the accusation of having merely copied. No greater mistaken idea could obtain, for a careful review of the current literature along a line in which he is interested, and which has taken him weeks to prepare, does for the fellows of the society what the majority of them would never have done for themselves. Who ever outgrows the need for a first-class text-book? And text-books are, in the main, collaborations, and compilations and deductions. What could be more interesting and practical than for some young member to present the latest in the physiology and chemistry of digestion, or a summation of the most recent in cardiac structure and action, or some peculiarities of the anatomy of the infant? These are old, old subjects, but some very interesting work has been done recently along these lines which cannot be found in the text-books, and the last word has not yet been written concerning either.

THE PHYSICIAN'S TOOLS.

What with the phenomenal progress made in recent years in mechanical therapeutics, drugs must still remain an important factor in the physician's armamentarium. Aladdin rubbed his lamp and the genii appeared to do his bidding; the modern surgeon rubs his knife and the results are almost as marvelous. Untold suffering has been relieved and a substantial contribution has been made to the average age of the human family. But surgery is not a panacea; there is a rapidly-growing spirit of conservatism among that element of surgeons who mold professional thought. The internist is, as ever, an essential factor, and his knowledge of therapeutic measures and a refined application thereof, has kept pace with other departments. But, in his uncurbed eagerness to be progressive, there grew up a condition which bid fair to clog the wheels of progress. Our tools all but became the property of com-

mercial interests, their names changed, distorted, hyphenated, multiplied, until the poor doctor, lost in bewilderment, helpless in the fusilade, became the tool of proprietary interests as damnable in their ultimate accomplishments as patent medicine interests. The conditions grew worse with a rapidity that was stupefying.

In 1905 the Council on Chemistry and Pharmacy was organized, to "investigate the proprietary medicine question." The need was imperative, the time was opportune, and the results have been, in the main, satisfactory. One of the best evidences of the efficiency of its work is had in the violent denunciation and vigorous opposition it has succeeded in arousing. If no other cause could be found, one must love it for the enemies it has made. The source of opposition to the Council's work comes from (1) the Proprietary Association of the United States. (2) So-called "ethical" proprietary companies; (3) privately owned medical journals. The position of each of these is so patent that elucidation were trite.

While I am not entirely in sympathy with all the findings of the Council, I am heartily with it in the main. To quote from the "Explanatory Comments on the Rules of the Council":

"The subterfuge of obtaining proprietary rights over an official or established non-proprietary product, by introducing unessential modifications, tends to confusion and abuses, and such articles will not be accepted by the Council. Essential and important modifications, however, will receive recognition."

And again:

"The Council recognizes, on the other hand, the right of discoverers of new synthetic products, or active principles, to name their discovery."

A fairer or more lucid statement of position could scarcely be wished for. So much for the Council, its work, its results. It remains for the individual doctor to take up the fight where the Council must stop. Beyond investigation and dissemination of its findings, and the conclusions it draws, it cannot go at present. If the American physicians continue to use preparations after the Council's expose, just that long will the manufacturers continue to furnish the product. Cut off the demand and the supply will atrophy proportionately. When the individual doctor is made to remember that his is an individual responsibility, that resolutions, whereases, therefore, and pledges will not retire a single therapeutical falsehood; that it is the prescriptions he writes that determines the future of therapeutics, whether it shall

become an art, attain to the dignity of a science, or remain what Sullivan now designates it, a "confusion," then, and then only, will the atmosphere clear. The Council can determine whether a preparation is honestly labeled, or the business of a house is honestly done, but it remains for the individual members of the profession to perpetuate a fraud or give it a speedy burial.

Here is abundant work for the county society—a game sufficiently complex to test the mettle of the County Secretary, and a goal abundantly valuable to enlist the interest of everybody.

U. S. PHARMACOPEIA.

Ninety years ago, the U. S. Pharmacopeia was originated by physicians who had a keen insight into professional needs, whose aim was to make it a book valuable to the profession, and to keep it in harmony with the standards of foreign countries. Such a mission the book well filled until it was captured by our friends, the pharmacists, body, boots and breeches, who have revised it decennially into a book on pharmacy. As the book stands to-day, it is not as valuable to the profession as it should be. But a small percent of doctors have a copy in their libraries, and a still smaller percent are familiar with its contents; it has ceased to be the guide and reference book of the practitioner.

What, briefly, are some of the conditions imperative in their solution?

1. The medical profession should dictate the contents of the Pharmacopeia. Leffman, in an article entitled, "The Capture of the Pharmacopeia, with Suggestions for its Recapture," calls attention to the fact that the last revision committee consisted of a majority of pharmacists. The Committee on Revision of the Pharmacopeia, appointed by the Section in Practice of Medicine of the American Medical Association, in its report at the Sixtieth Annual Session, June, 1909, urged "that a reversal of these numbers would seem in order." M. A. Welbert said, in discussing that report, that "the members of the profession should absolutely dictate the contents of the Pharmacopeia."

2. Revision at shorter intervals. With the activity that exists in the pharmacological field, resulting in a tremendous annual output of drugs, some few of which possess merit, it is idle to suppose that a book revised only every ten years keeps pace with medical progress. For example, trional was placed on the market thirteen years before it was listed in the Pharmacopeia.

One of two plans should be adopted; (a) revision every five years; (b) the issuance of annual bulletins, listing new drugs added and making note of changes in methods of

dispensing, and discontinuance of drugs or preparations.

3. Issue the Pharmacopeia in two volumes. The clinician is not generally interested in chemical tests for purity, methods of collection, preservation and preparation of drugs for the market. Such information, and more, should be included in one volume for the use of the physician; the other to contain such information as the physician must needs have.

4. What should it contain? That useless and effete agents should be omitted is scarcely questioned. Why the fluid extract of Lappa should be carried from one revision to another, no one knows. Ninety-five per cent. of practitioners do not even know that it is there. But what about agents protected by proprietary rights. The Committee above referred to said, with reference to this question: " * * * this would be a mistake," adding that it would "admit the thin edge of what would prove to be a very large wedge." It would seem that the position of the Committee is a good one, and it is hoped that the Pharmacopeia will never degenerate to a lower level than it now occupies.

5. Should combinations be listed? Emphatically, no. The proper place for such is in the National Formulary, where it might be well to carry such information for the use of the doctor who has not access to a competent druggist, and the doctor who has no druggist to depend upon at all. It must be remembered that the function of the Pharmacopeia is primarily one of standards and not of a Medical Lexicon.

MEDICAL EDUCATION.

The Supreme Court of Wisconsin held that "Reputable," as used in law regulating practice of dentistry, is "worthy of good repute," and that this "relates to real character and not to reputation;" and, further, that "reputability" relates to that which will enable a college to do good work and the actual accomplishment thereof. We believe a court would and should hold this interpretation to be equally applicable to a medical college. The day of privately owned colleges of medicine is past, and only those with the material and resources of a city or state behind them can long survive. The maintenance of a plant in keeping with Twentieth Century medicine demands an outlay greater than the ordinary sources of income.

THE CURRICULUM.

There are two features in our present medical curriculum that demand the full benefit of the hours required to be taught in the various departments. A few illustrations must suffice: Internal medicine is given 540 hours; Surgery and Gynecology is given 700

hours. A comparison is indeed odious here, and the odium rests on the committees who are responsible for the present fixed standards. Verily, the hand of the surgeon can plainly be seen, and in their anxiety to carve in the lime-light, the needs of the student are, perforce, suffering from post-operative adhesions. It must be apparent to the disinterested medical man that the allotment of time is disproportionate to the character of demands that will be made in actual practice. Ask the man who has been doing a private practice for ten years, and he will tell you that medical treatment and minor surgery represent ninety-five per cent. of his work. What percent of doctors have an opportunity to do a laparotomy? The public demands a specialist when any but emergency surgery is required, and a small percent of the graduates of a given year who locate in the larger centers of population can have sufficient experience in major surgery to become highly proficient.

The Sub-committee on General and Special Surgery says, in its report printed in the *A. M. A. Bulletin*, September 15th, 1909:

"The Committee wish it to be clearly understood that the curriculum is intended to train general practitioners, not to make specialists. In the words of one of the members, 'the curse of the country is unbaked specialists.'"

Again, take obstetrics, with its 160 hours, as against mental and nervous diseases, with 120. Every general practitioner must do obstetrical work, for the Good Lord did not ordain that woman should be an oviparous animal, but when reason forsakes her throne, institutional treatment becomes all but necessary, and here the specialist again comes on the tapis.

Pediatrics has 100 hours, while eye and ear, nose and throat get 120. The equipment and time necessary to do ocular work precludes the general practitioner from treating such conditions, and the public on its own initiation seeks the specialist, without, often, even the formality of advising with his "family" doctor.

The following axioms can be deduced: (1) The greater percentage of graduates do a general practice; (2) the training of the undergraduate should not tend to specialism; such training should be had in post-graduate, dispensary and hospital work, and across the table from a good surgeon in his private work for two or three years.

STATE BOARDS.

In lieu of some better system, State Boards are a necessity. They are necessary as an agency looking after the public health and should be supported by adequate laws and

ample appropriations to enable them to be more than figure-heads; they are necessary to save their respective States from being converted into a dumping-ground for derelicts, incompetents and quacks. With the phenomenal growth in appreciation of the importance of Preventive Medicine, together with the earnest effort on the part of the profession to raise the standard of professional fitness, the function of these Boards has been amplified and their executive powers extended until today, in importance and jurisdiction, they are no mean factor in a state's political economy. It is not of these we wish to speak, but rather to call attention, in a very cursory way, to some of the imperfections in our own system, insofar as it touches the doctor in his privileges and obligations. There should be qualifications, potential and actual, beyond a successful professional career, affability of manner and good will of a majority of members of the House of Delegates of the State organization. Special knowledge of the State and municipal sanitation, interest in the work, and adaptability should be made essentials to securing appointment. That an applicant is reported to have those qualifications is scarcely sufficient; he should be required to exhibit tangible evidence of their possession by an examination on things pertaining to State and municipal sanitation, as outlined in an editorial by the writer in the September 15th issue of the *Jefferson County Number of the KENTUCKY MEDICAL JOURNAL*. Indiana has taken this step and held her first examination for this purpose September 10th, 1909. We earnestly recommend it, not only for city and county health officers, but for the State Board of Health as well.

UNIFORMITY IN REQUIREMENTS BY THE VARIOUS STATE BOARDS.

This is not practical, as yet, in absolute detail: some few states insist on a standard of college requirements that is impossible in all states or all sections of one state. Harvard Medical School requires, for example, a full academic course terminating in a degree, eight years public schools, four years High School, four years' college work and four years in medicine. It must be evident that a man who can and does thus equip himself will not elect, as his field of professional work, the mountains of Eastern Kentucky, where there is a sparsely settled and none too wealthy population, a day's journey from railroad facilities, and ox-paths for public highways. And yet these same people must have a physician; hence, schools must exist with requirements that can be met by the clear-headed young man from the mountains who expects to devote his life to his people.

With these problems confronting us, it is to be hoped that in the near future, a more near future, a more nearly uniform and practical working basis may be agreed upon.

What is true of training prerequisite to taking a correct examination, is also desirable in regard to uniformity in the examination questions. Too much latitude for a display of individualism on the part of those making up the questions is unwise and unfair. But, we prefer to quote rather than advance our own opinion. In the report of the Subcommittee on Pharmacy, Toxicology and Therapeutics, printed in the *A. M. A. Bulletin*, Sept. 15th, 1909, occurs this:

"The only valid agreement which has been advanced as an excuse for burdening the students with this useless rubbish is that it is required by some of the State Examining Boards. The Committee hopes and believes that this condition will be corrected * * * for it is evident that the service of the practitioner to the community cannot be gauged by his parrot-knowledge of useless drugs."

Dr. Fleming Carrow, Detroit, in a paper entitled, "Character of State License Examination," also appearing in the *A. M. A. Bulletin*, Sept. 15th, 1909, in discussing the question—"How Shall Examinations Be Conducted?" said that it should be written, oral, laboratory and clinical, but that the last two, which were so important, "cannot be conducted by the average State Board man because of his lack of knowledge of laboratory and clinical methods and technic."

RECIPROCITY.

Finally, the reciprocal relations between the States demand modifications for the relief of the practitioner. Wm. Mayo, in his presidential address before the A. M. A., in June, 1906, said that "the conditions are well-nigh intolerable." Boundaries of states are imaginary lines. Doctors who have been practicing in one state for a period of years and are obliged, on account of health, etc., to move to another, should not be obliged to pass an examination before he can practice in his adopted state; or, at least, the examination should differ materially from that of the recent graduate. Examining Boards should agree on a *minimum* requirement, and thus entitle a man to practice in any State in the Union.

FEE-SPLITTING.

This moral obliquity is much more prevalent than supposed by the average observer. In plain, blunt terms, the man who engages in this nefarious practice is selling a confidence which a patient has in his physician to a specialist. Of the twain, the

specialist is the greater offender, since he is, or ought to be, a man who is in close touch with the best in the profession and possessed of a larger horizon. Rid specialism of these arrant bargainers and the practitioner, urbanite or countryman, can find no market for his wares. Since specialists are fewer in numbers, it would appear to be the easier horn to twist in an effort to eradicate this baneful practice.

EXPERT MEDICAL TESTIMONY.

Under the system of practice at present in vogue, our courts are deprived of the utilization of expert medical knowledge in a manner best calculated to secure the assistance such information could contribute towards the administration of Justice. This is the broadest viewpoint and the one of greatest moment. Of much importance, however, to our profession is the unfortunate attitude in which medical men and medical opinion has been placed. The volleys of criticism fired into some of our star performers during recent years should, if they have not, reach the quick. We can but briefly note some of the conditions imposed by the court which contribute to this unfortunate stigma.

(a) The medical expert expresses an opinion; the ordinary witness states a fact. The latter can be prosecuted when it can be established that the truth has not been told; the former cannot be so dealt with when false opinions are voiced. And we opine that expert opinions may sometimes be false. Public opinion has been formed in the light of such probabilities; hence, the honest expert is discredited by a pernicious system and all medical expert opinions have come to carry little weight.

(b) Verily, the "hypothetical" question, as at present constructed, is our *bete noir*. The defense builds an hypothesis of conditions evolved by selfish interests; this admits of one answer. The prosecution elaborates another hypothesis from the same court records, equally as highly tinted, and this admits of quite another answer. And thus, it falls out that the two experts, both competent, we grant, both conscientious in the main, are made—literally made—to go on record, to all intents and purposes, as holding absolutely opposing opinions.

(c) A fundamental difficulty, if not an objection, exists in the fact that ultimate and final decision of complex technical medical questions is given by courts and juries lacking technical knowledge.

(d) In passing upon the sanity of an individual, the courts yet hold to the antiquated "right and wrong" test. Recognition that insane persons, may have lucid intervals, that they suffer from monomanias,

that a certain deceptive shrewdness is characteristic of many with homicidal and suicidal tendencies, seems to be almost wholly lost sight of. A patient may discern between right and wrong, but not possess the "power to choose the right and reject the wrong." "The law assumes to define what medicine cannot," says Langden.

(e) The medical expert is often called upon to give a prognosis while legal opinion is expressed on what has transpired. The outcome of a stated condition is one of the most difficult things. On known facts there is usually no difference of opinion.

(f) Just why attorneys should be permitted to harrangue witnesses to the extent of even becoming personal and offensive, baffles our diagnostic acumen. It would seem that the ends of Justice are not better served by such practice, and it should be discontinued.

(g) The press has been no mean factor in bringing undeserved ridicule upon medical experts. It would seem that this is a cross we must bear for the sake of maintaining a "free and untrammelled" newspaper system in our midst. Judge Anderson's opinion in the suit between the Government and the Indianapolis Star is the most recent by which editors have been allowed to call men liars, thieves and the most dastardly who ever "scuttled a ship or cut a throat."

MEASURES OF RELIEF.

(a) St. Louis has a system that might be much worse. Her criminal insane are committed for observation to the State Hospital for Insane. This plan would not be a good one in Kentucky, while the disgraceful and inhuman practice obtains of vesting in the Governor the power of appointment of political proteges, so often ignorant of diseases of the mind and nervous system.

(b) Since juries of laymen are incompetent to pass on many of these questions—insanity, for example—it has been proposed to have a jury of physicians. There are serious objections to this from the profession's standpoint, but the plan would be better than the one at present in vogue.

(c) To have "Court experts" appointed for a term of years.

(d) A permanent commission of "Forensic Physicians." Jacoby, (in N. Y. Med. Jour., March, 1908) proposed such a class, making them State officials, with permanent tenure and free from political influences. The qualifications he lays down are: Age limit, special training in legal medicine and psycho-pathology, clinical experience in State hospitals, and a diploma on examination by a State Board of Examiners.

(e) Abolish the hypothetical question, or

have but one, made up from all the facts and approved by the Judge; or, better still, have it made up by the Judge.

(b) A more active espionage on the part of County Society Councils over the "habitual court expert" might have a salutary influence.

Edward J. Ill, President, New Jersey State Medical Association, in dealing with the subject in his annual address, said, in part: "That a man who sold his opinion should not be allowed to remain a member of the organization, and urged that the profession put an end to a system already dead and that had outlived its influences."

FOOD PRESERVATIVES.

Two contentions are made by manufacturers for the use of food preservatives; (1) that preservatives are necessary to keep foods in good condition, and (2) that such agents as are used are not harmful. Scientists are almost uniformly agreed in a refutation of the latter, and a delightfully large number of manufacturers assert that the former is utterly false. They go further by practically demonstrating that preservatives are absolutely non-essential, nor even desirable.

The fight has narrowed down to the use of benzoic acid and benzoate of soda. Dr. H. W. Wiley, Chief of the Bureau of Chemistry, U. S. Department of Agriculture, says (in Circular No. 39, issued by that department):

"There is but one conclusion to be drawn from the data which has been presented, and that is that, in the interests of health, both benzoic acid and benzoate of soda should be excluded from food products."

Bergey (in *Journal A. M. A.*, Vol. LIII, p. 757) says:

"In view of our knowledge of the detrimental effects of Chemical food preservatives, there is no more reprehensible practice than that of permitting their use in foods in any quantity whatever. * * * The medical profession owes it to itself to uphold the laudable position assumed by Dr. Wiley in his crusade against food adulteration, and any course which falls short of this will stultify the profession in the eyes of educated humanity of to-day and for all time to come."

The American Association for the Promotion of Purity in Food Products, an organization composed of manufacturers of food-stuffs in this country, during its convention in 1908, adopted a resolution which was sent to President Roosevelt, and from which I abstract a few paragraphs:

"As practical manufacturers, we know that artificial preservatives of any kind are unnecessary to the successful commercial preparation of good, sound, raw materials, under proper sanitary conditions. The use of artificial preservatives makes possible and invites the use of inferior and waste materials, often unfit for human consumption, and careless methods and unsanitary conditions in food preparations. We are opposed to any ruling, under the National Food and Drugs Act of June, 1906, that permits the use of artificial preservatives in foods."

(Taken from *Dietetic and Hygienic Gazette*.)

In reply to a circular letter sent me by Prof. Scovell, Director, Kentucky Experimental Station, with reference to the use of preservatives, I said:

"Physicians must assist in hastening the time when dishonest manufacturers and politicians will no longer be permitted to juggle with the health of the consuming public. A factory that uses chemical preservatives, to say the least, lays itself open to suspicion. It is pretty generally known that costly factories are erected for the sole purpose of utilizing refuse from the floors of canning establishments. This stuff consists of skins, cores, parings, worm-eaten and decayed pieces cut from fruit and vegetables, and is made up into soups, catsups, jellies, mince meats, etc. Forbid the use of preservatives and these plants and their damnable products could not exist; hence, the fight for a liberal construction of the law."

When Dr. Wiley was here last, he gleefully handed the Man Around Town a clipping from an Indianapolis paper that reads like this:

"Abou Ben Zoate (may his tribe decrease)
Awoke one night amid the graft and grease,
And saw within the cannery's deep gloom
A demon writing in the book of doom.

"Exceeding nerve Ben Zoate now possessed
And thus the sooty visitor addressed:

"What writest thou?" The demon raised his head

Saying, with shrewd look from his thievish eyes,

"The names of those who love the Prince of Lies."

"And is mine there?" quoth Abou. "Nay," he said—

"But I shall write whate'er thou wilt instead."
And Abou sweetly said, "I am content."

"Write me, I pray, " "One-tenth of one percent."

The demon wrote and went, but the next night
 He came again, and by a flickering light
 He showed the names that met the devil's test,
 And lo, Ben Zoate's name led all the rest."

In the face of the unanimous request of pure food manufacturers, the convention at Denver, attended by Secretary Wilson, voted to accept the Referee Board's recommendation that sodium benzoate be permitted as a food preservative. This Board further decides that one-half gram of the drug per day may be eaten with our peas and corn and tomatoes, and we still live. They did not provide, in their wisdom, an easy and simple way of determining just when we had consumed our 7 grains.

THE IMPORTANCE OF THE SECRETARY OF THE COUNTY MEDICAL SOCIETY*.

BY W. W. RICHMOND, CLINTON.

When we consider that the County Medical Society is the base or foundation upon which the great superstructure of medical organization rests, and upon which it must depend for its future success, we should realize more than ever the importance of concentrating our best efforts and most active energies upon making this foundation as strong and durable as finite forces can fashion it; lest it prove inadequate to its uses, should totter, should crumble and thus invite disaster and destruction to the building. It is not merely enough to plan or even build the foundation in common exceptionation of the term, but it must be compacted and cemented, the component parts fused and cemented and incorporated into a foundation of such solidity as shall be able to breast the storms and withstand the ravages of all time to come. "Feelings pass, thoughts and imaginations pass, dreams pass, work remains." The great question which confronts us is the maintenance of the County Medical Society, and the surest and most efficient methods to employ to that end. In considering this question, there are several important factors involved, and none of weightier significance than that of the County Secretary. It is to him and his various duties and obligations that I wish to invite your attention in this paper. The County Secretary, by reason of his duties well performed, becomes the figurative cement that unites and welds together the County Organization. He is the Director, the guide, the referee; he is the supreme head of its management and control, the indisputable master of its destiny.

* Read before the Association of County Secretaries, Louisville, October 19-21, 1909.

It is to him the members look for succor and advice in times of stress, indeed it is to him, that the society looks for its very existence. "A vertible fate with the clipping shears." It is not putting it too strongly to say that upon him rests the responsibility of its life or death. With these facts ever present to his mind, should he not say with Marcus Aurelius, "I must rise to a man's work." His duties are arduous and often perplexing, serving as he does the county profession both singly and collectively. He arranges the program for the meeting; appoints the committees, notifies the members; calls the meeting and entertains it when it comes. He solicits new members and urges the attendance of the old ones, collects their dues and often advances the money for many of them. In truth, he is the dynamo that puts the machine in motion and keeps it moving, not infrequently combining this with the minute function of driving it as well; so that it will readily be seen that it is an office requiring adaptation and versatility to a mark degree.

It is said in the Constitution of the County Society, that the President of said society during his incumbency is the head of the profession in the county. That should not be the case, nor indeed practically is it so, for the Secretary by the very nature of his attitude towards the Society, and by virtue of his duties aforementioned is the recognized head of the profession and is generally so regarded. To his labor and influence the unity of the profession is preserved and closer and more friendly relations are established.

Not the least of his manifold duties, is that of correspondence. He is not only secretary, but he is corresponding secretary as well. All communications are addressed to him, and he must hold himself in readiness to respond to each and all. The Secretary of the State Association must look to him for his annual report and such information and assistance as is necessary to keep the organization intact, and also for the data upon which bases his report to the State Society. Hence, it is, that the County Secretary typifies the keystone of the arch, the central stone of highest importance and chief prominence, the one stone upon which all of the rest rely to complete their strength and beauty—the stone without which, the mechanism would disrupt and pass to nothingness.

In view of these facts, the selection of a County Secretary should be made with such care and precision as to insure the qualities necessary to bear the burdens inherent to the office. He should be a man of recognized ability both as a physician and a citizen; a

man of well-known business qualifications, capable of giving advice and executing plans; he would be possessed of sufficient magnetism to attract, to grapple men to him with "hooks of steel." He should be a man of influence and energy—he should be withal, a man of much enthusiasm. Bulwer Lytton says, "enthusiasm is the genius of sincerity." And truth accomplishes no victory without it. He should be a man of high ideals and so in love with his profession that he will welcome any sacrifice for its well being. He should be a busy man—for only a busy man can do things. The man who is always busy succeeds, and the man who succeeds is always busy. As a rule, the busiest doctor in the County will make the best Secretary. There is scarcely a mental or moral gift that will come amiss in a well-rounded Secretary. The obligations which confront him in the discharge of his duties are both intricate and perplexing, and he will need to be armed with many virtues. We are cognizant of no office presenting a wider scope for exactitude and devotion to the profession. "The profession is broad, and we must enter broadly into it." He should be patient and persevering, for by means of these qualities he can overcome every obstacle and accomplish much. He should, like Paul of old, become all things to all men, that he may by all means bring men into the organization, for their own good and for that of the profession. He should be capable of formulating an intelligent and succinct report of each county meeting to the State Journal, making due note of the most deserving workers of the society, for to them belong the credit and reward. In trying to get before you the importance of the office and the qualifications necessary to its incumbents, let us remember that our profession, as everything else, needs uplifting; needs to be greatedened, and the expansive power lies with the individual factors composing it, none of which are of more importance than that of the Secretary of the County Medical Society.

SOME OF THE DUTIES OF THE COUNTY SECRETARY*.

By J. J. RODMAN, OWENSBORO, KY.

The late investigation of those great financial institutions, the insurance companies revealed the fact, or brought it out more boldly, that the great and high-salaried presidents and directors did not make the companies, nor even increase their business, power or wealth, but that it was the man in the field, who solicited the business, who got new blood into the company, and a continued

influx of money into the treasury, that was the mainstay. Without the agent and his work the big president and directors, be they ever such shrewd men, could not prevent the company from becoming bankrupt in a very short time.

So well is that fact understood by the companies that they select the brightest men they can hire for their agents, and pay them well. So, in like manner, as at present organized, The American Medical Association and the State Association depend upon the county societies for their support and maintenance. The county society is the unit, the cell, that goes to make up the State society. As the county society stands or falls, so will the State association do likewise. So also the American Association. If the great American Association is to increase in membership and carry out the noble work it has begun, the State society must first succeed, for the former depends directly on the latter for its continuance. Hence, if this fails that must necessarily go to pieces. But the State Association is made up of the individual county societies. Therefore, the whole fabric depends upon the standing of the county society. Here is where the county secretary comes in, for the success or failure of the society depends upon his work. Like the life insurance agent, he is the man in the field that must support the whole fabric. He must do the ground work, without which there can be no organization. Then his position becomes a most important one. He can make or break the entire organization. He must work "for the good of the order," for no county society can pay a competent secretary for his work. It is his duty to arrange the programs and make them attractive. He must know the members as a teacher knows his pupils. He must learn their ability and their willingness to work. He must be able to prompt a new presiding officer when necessary. If there is no social feature at the meetings, he must inaugurate one, making them pleasant and agreeable as well as profitable. He must mix with the members and be "hail-fellow well met" with all.

But his most important duty is to collect dues—really the hardest and most trying part of his work. Prompt payment of dues does more than anything else to keep a society together. When a man puts money into a concern he will take interest in it. "Money makes the mare go." A society will not go without it. When the dues become due, notify each member. Some will pay promptly, while others will put it off. In a short time notify them again, and some more will pay. Then notify the delinquents that they are behind, and that the JOURNAL will

* Read before the Association of County Secretaries, Louisville, Oct. 19-21, 1909.

be discontinued if they do not pay up. Some more will pay. Those who do not pay by this time are the lukewarm and careless fellows who seldom attend the meetings, but who need the benefits to be derived therefrom more than any others. Don't get impatient and "vomit them out of your mouth," but explain to them the good the society is doing, and the pleasure and profit derived from attending the meetings, that the insurance companies and the people, other things being equal, will prefer the man who attends his county society regularly, and lay before them the benefits derived from reading the best journal printed, which comes with their membership. A continuance of this work will rarely fail to yield results, by which the membership of the society is held intact and the final strength and influence of the larger bodies resting upon it are made more powerful for good to the profession and the people.

MEDICAL ASPECT OF GASTRIC ULCER.*

By U. V. WILLIAMS, FRANKFORT.

Previous to my assignment by committee on program at last meeting of this society to prepare a paper on the Medical Aspect of Gastric Ulcer, I thought I enjoyed the friendship of all its members, but I am now constrained to the belief, after I had run the subject down in all the text-books, new and old in my library and consulting the current Medical Journal literature available, that the members of that program committee had "it in for me" in the assignment.

My previous conception of gastric ulcer was a disease of easy diagnosis and doubtful treatment—an opinion I still hold as to treatment—but have experienced a radical change of mind as to diagnosis, and am at a loss to comprehend why the subject was not referred to a stomach specialist, as they should be more competent to make the subject incomprehensible than can I, even by most credulous friends could be supposed to do.

In preparing a paper, either for instruction or amusement of a society, we must, of course, begin with *Etiology*, a term which all toxicographers define as "The sum of knowledge regarding causes."

In giving the causes, I desire to acknowledge the assistance of some of the authors whom I have consulted, and quote from their findings in part. I have made free extracts from some as follows: Frank Billings, Conhiem, Silverman, C. G. Stockton, Gaylord, Turick, Musser, Ophuls, Jacobi, Von Yzenen and others, and much of what follows of in-

candescant obscurity and utter incomprehensibility of this subject, embracing such conditions both unimaginable and ambiguous as being the *causa belli*.

For instance, I copy a list in part of causes laid down by them, viz: Gastric Ecchymosis, Gastrostaxis, which the introduction into the blood of a toxin having cytolytic properties acting upon the epithelium of the blood vessels which produces ecchymosis on the epithelium of the gastric mucosa. Now how do you like that? *Cytolytic*—Did you ever hear of that before? I have heard of cytology, which means the study of cells, their formation and function. If I ever see a *cytoid*, I will know it means a cell. Any way, this is said to produce gastric ulcer by cytolytic action. Also that this ecchymosis may occur in any blood group of diseases; also as causes of purpura, hemophilia, lobar pneumonia, acute peritonitis, tubercle cancer, septicemia and pyemia. Toxemias of certain poisons such as carbon monoxide and coal gas, or early post-mortem changes. *Post-mortem*—How does that strike you as cause? There should be no doubt about that, or the correctness of the diagnosis, as made by a coroner before a competent jury. Capillary hemorrhages, epistaxis, gastrostaxis, enterostaxis, leucythemia, scurvy, pernicious anemia, septicemia, pyemia, infection from fevers, typhoid, yellow and malaria, pneumonia, bleeding carcinomata of uterus, jaundice, urticaria, hematemesis and after laparotomies, syphilis, Bright's disease, severe burns, gastritis and colitis, and so on *ad infinitum* and *ad nauseum*, and to complete the list, allow me to add hanging and drowning to the acute post-mortem changes.

Now, what the devil else could cause, I do not pretend to know, nor do I believe any one else does know.

OCCURRENCE.

Jacobi says it occurs in infants owing to thrombosis of the umbilical vein or embolism depending on congenital affections of the heart, or in children from swallowing particles of glass, nails or other foreign substances. Kennicut says, gastric ulcer is septicemia. Huber attributes it to heredity and Huchon to neuritis of the epigastric and Du-bard says this affection of the pneumatic produces bronchitis and tuberculosis and mediastinal tumor.

DIAGNOSIS.

May be positive if pain soon after eating, vomiting of food and eventually of blood, either active or occult, with tenderness midway between umbilicus and ensiform cartilage; pain after eating may be due to hyperchlorhydria in neurotic cases and *achylia*,

* Read before the Franklin County Medical Society.

(what ever that is, I don't know. Acheilia means absence of both lips and that is the nearest I can come to what achylia is.)

In cholecystitis and appendicitis, the pain in neurotic cases is less severe, and in appendicitis not controlled.

All open ulcers bleed and hence the presence of blood indicates ulcer or cancer, and is a most potent factor in diagnosis. J. A. Hickly, in *A. M. A.*, Oct., 1907, sums up and insists thus:

(1) The diagnosis of uncomplicated gastric ulcer should be made without difficulty.

(2) When complications exist, it may be impossible to form an exact opinion of the pathologic condition in this region of the abdominal cavity before a laparotomy is done.

(3) A careful methodic anamnesis of these cases is of the utmost importance.

TREATMENT

By a careful analysis of the statistics of over 1,800 cases which the essayist has compiled, 25 per cent. have died, 43 per cent. suffered a recurrence, and less than 50 per cent. have been reported cured. But of those, many have passed out of notice and this percent may be subject to change if history known. The remote results of treatment of simple ulcer are determined with great difficulty. The consensus of opinion of most writers is that the medicinal treatment of simple gastric ulcer is attended by best results. Hemorrhage occurs in from 50 to 80 per cent. of all cases. Where the bleeding is large, surgical interference is demanded, but contrary to this idea of surgical interference, the statistics uphold the opinion that medical means of treatment is attended by less mortality than surgical means, percentage of death from medical treatment being 22 per cent.; after surgical, 42 per cent.—but in fairness to the surgeon, it must be considered that many of his cases were reported to him in practically a dying condition. All uncomplicated cases should be treated medicinally.

In the *American Journal of Medical Science*, Jan., 1908, C. G. Stockton summarizes as follows the medical treatment:

“Attempt to secure a calm mind, a quiet nervous system and improvement of general health. Make a positive diagnosis, begin treatment early and carry it out with painstaking attention to details for a long time. Obtain general rest.”

In some cases feed the patient sufficiently but discretely: in others starve the patient for a period, depending for support on frequent small enemata of physiologic salt solution for the control of hemorrhage. In addition to rest, one may succeed by local treatment through the stomach tube, using ice

water or adrenalin solution to be followed by gelatin water. In irritating hyperacidity, one should use local and general sedatives and antacids.

To relieve hyperdistention and spasm of the stomach, in addition to suitable drugs, use external applications. Continue treatment long after apparent cure, and according to Bettman, remember it, success depends upon not how long treated, but how well treated. Our first care should be to remove depressed spirits and require bodily rest and provide good nutrition. Hyperacidity may be the result of perverted psychic action.

In severe bleeding the physiologic salt solution made of sea salt, introduced into the bowel by the stiticism process. Hypodermatic of morphine, atrophin or hyoscin by stomach; bismuth, magnesium carbonate in gelatin water. Such means usually controls bleeding.

FEEDING.

Usually best results obtained by absolute rest of stomach for 3 to 6 days. If alarming weakness, give thin gruel of arrow root, farina, etc., blended with little lime water and milk, egg albumen, expressed beef juice. The French physicians extol the oil treatment very highly.

Out of that I know very little and care less, but other means failing, as a *dernier resort*, would be at times inclined to try it.

The British treatment is summarized by Thomas in *British Medical Journal*, July, 1907, into, (1) Placing patient in horizontal position. (2) Morphine to relieve pain and check peristalsis. (3) Avoid palpation and manipulation of abdomen. (4) To empty stomach by pump. (5) No food or drink by mouth. (6) Cover abdomen several thicknesses absorbent cotton and bandage. (7) Water and food by rectum alone.

Now, gentlemen, you have all I can find out about Medicinal Treatment of Gastric Ulcer. Try all and every one, and if patient neither dies or gets well, turn him over to the surgeon, and if he fails, he will say he got the patient too late.

Arthritis and Erythema Nodosum.—Symes says in the *British Medical Journal*, London, that in a large proportion of cases of erythema nodosum it is difficult to recognize any rheumatic taint, and even when arthritis is present, it may differ very remarkably from that found in acute rheumatic fever. His experience has been that the signs of a history of chorea, endocarditis or arthritis, are not found in more than 10 per cent. of all cases of erythema nodosum.

MEASLES (MORBILLI).*

BY T. A. FRAZER.

I select this subject at this time, because the long summer months have passed, with their flies and mosquitoes, diarrhea and other diseases so prevalent in hot weather, our minds will naturally peer into the future with its possibilities, rather than ponder over the past and worry over the mistakes we have made. Fall is here in all her grandeur; the leaves are yellow and are kissing each other in an autumnal breeze; the corn-fields are brown, and the harvester, with a light heart, is going forth to gather his crop; the squirrels are storing their food for winter; the migrating birds are preparing for their annual flight to the sun-kissed clime; the reptiles are seeking their abode for the winter. The scenery about us is being transformed in conformity with the season, then, we, as physicians, should look to the future with renewed zeal and fortify ourselves that we may battle with the foes of winter.

I know of no disease that bodes more evil for the young during the winter months than measles, unless the doctor is wide-awake and ready to meet this foe in its incipency, and combat its ravages in the first outbreak. Of all the contagious diseases, measles is the most universal; few of the human race escape its infection. The laity accept it as a matter of course; but this should not be so, as I will endeavor to point out to you later on.

Measles is an acute infectious disease which is highly contagious; the most contagious, I will say, of all diseases. The specific organism has not been isolated, but it is evidently of germ origin. The disease is characterized by a prodromal stage with coryza, fever, cough, pharyngitis, headache, aching of limbs, general malaise, "dull or pink eyes," and coated tongue, followed by a brownish red macular or papular eruption. The period of incubation is from seven to fourteen days. The exanthema appears the third or fourth day. The first eruption is seen on the soft palate and fauces, then on the face, which has a mottled and swollen appearance. Then it spreads rapidly over the trunk, and lastly over the extremities. This eruption lasts till the fifth or seventh day, then it rapidly fades. Occasionally desquamation takes place and extends over the entire body. As a forerunner of the rash, small red spots with a minute blue center, have been described by Reubald, Hilton, Koplik and others, as occurring on the inner surface of cheeks in many, but not in

all cases. I have observed these spots in many cases, even before the eruption appeared on the fauces. Dr. Flindt, in the records of the Danish Sundheds Collegium, 1880, describes these spots as follows: "Second day of fever, a spotted erythema may be seen on the mucous membrane of the cheeks and lips. This shows quite a remarkable appearance, due to the numerous minute bluish white, shining, and apparently vesicular points which lie in the center of small red spots, and are arranged in irregular groups. One can feel as well as see these small vesicular projecting above their surrounding. Similarly grouped spots with vesicles are visible on the buccal mucous membrane, especially the part of it lying opposite the space between the upper and lower back teeth. At this stage the skin eruption first makes its appearance."

Dr. Koplik, of New York, described the spots, in the *Medical Record*, in 1898, and distinctly points out that they are often present from twelve hours to five days before the cutaneous eruption, and that their presence may enable us to isolate our patients earlier than formerly, and also aid us in distinguishing measles from other skin eruptions.

The temperature shows a peculiar curve in the pre-eruptive stage of the disease. A remission to normal or even sub-normal, is usually observed before the eruption appears. The diagnosis is usually easy if we give proper attention to the symptoms.

In rubella, or German measles, the rash appears earlier, the temperature is not so high, the eruption is evenly distributed and not blotchy, and all the symptoms are mild. Scarlet fever has a sudden onset, and no pre-eruptive remission in temperature. The throat is sore, rash is scarlet, eyes are bright. Prognosis is usually favorable in uncomplicated cases. Hemorrhage or black measles, is often fatal, the patient usually dying as result of overwhelming toxemia. In strong adults, death is rare, except from complications. Robust children generally make good recoveries, but the death rate in infants and delicate children is large. In the aged, pneumonia or bronchitis generally result with a very large death rate; the feeble of all ages often die of this disease. Pregnant women generally miscarry. One attack usually confers immunity, though cases have been reported where patients had two separate and distinct attacks.

Complications. Pneumonia, bronchitis, nephritis, croupy cough, aphonia and stenosis of the larynx, active angina, follicular tonsillitis, diphtheria, tuberculosis, conjunctivitis (often severe) gastroenteritis and

*Read before the Crittenden County Medical Society, October 11, 1909.

otitis media, are often sequela of measles, and they should be recognized early and treated according to indication, but the physician should be especially on the alert for diphtheria, and administer antitoxin when the first symptoms appear.

Treatment. A person ill with measles should be comfortably clad in the usual night clothes and kept in bed, no matter how mild the attack may appear. No extra wraps are required, neither is it necessary to keep the room at a higher temperature than is customary, 68 to 70 degrees, F., is a suitable room temperature.

There are many degrees of light between glaring sunlight and darkness; both are extreme, and one is as undesirable as the other, but there should be a soft light in the room. If the window shades are green, they may be drawn down to within two feet of the window sill; if brown or drab, they may be pulled entirely down; if, white, there should be a colored shade provided so the light can be made soft, as it is necessary to exclude bright or glaring light.

The room should be large and well-ventilated, as an abundance of fresh air is necessary to the welfare of the patient. Close, stuffy rooms are responsible for many of the complications. Our motto should be, "keep the patient comfortable;" not too much wraps, not too much cover, but plenty of fresh air, plenty of liquid diet; and we should remember that there is one danger signal that stands pre-eminent above all others throughout the attack and until convalescence is well established; this signal always reads "pneumonia."

Plenty of pure cold water is as essential in the treatment of measles as any other agency we possess. The era of hot drinks, hot teas, whiskey, etc., in the treatment of measles has passed into history, and the death rate in this disease has been lowered with their relegation.

The bowels should be evacuated with mild chloride of mercury at the onset, and they should be moved once a day thereafter with an enema, if necessary. I very much prefer normal saline solution to any other form of enema.

During waking hours, the eyes should be bathed every three or four hours, with a 10 per cent. solution of boric acid. This will prevent conjunctivitis.

In uncomplicated measles the temperature seldom runs so high as to need special attention; but should it continue above 103 for several hours, it should be reduced by tepid baths, the duration of bath should be from ten to twenty minutes, according to indication, and should be repeated as often as is necessary to control the fever. Whether

the temperature demands it or not, the patient should be bathed at least twice a day for the sake of cleanliness. The bath should always be warm, from 96 to 100 degrees. After the bath, the body should be dried and then the entire surface should be rubbed with liquid aboline or olive oil. This relieves itching, induces sleep, lowers temperature and aids digestion, thereby making the patient more comfortable and fortifying them against complications.

Now and then a case is encountered in which the rash is slow in appearing. The temperature is high, from 104 to 105 degrees, F.; the skin is hot and dry, the patient very uncomfortable, often delirious. In such cases, have the patient drink plenty of cold water; give them a hot bath, 105 to 108 degrees, F., of from five to ten minutes duration, which will often bring out the rash, greatly relieve the symptoms, which were urgent in character.

The cough, during the active period of the disease, is often very annoying and requires medication. The ordinary expectorants are useless in measles; therefore, if we would relieve the cough, we must resort to sedatives. Camphorated tincture of opium, in the proper doses every two or three hours, will usually relieve this distressing symptom without any deleterious after-effects, but in adults, I prefer pulverized ipecac et opium, as we get a marked diaphoretic effect from this drug. Usually, it is only necessary to give two or three doses of the sedative during twenty-four hours.

Should nervousness become an annoying symptom, and the opiate fail to produce sleep, it is my rule to give the bromides. The most satisfactory formulae with me, for giving bromides, is a combination of the bromide of sodium and potassium with aquae camphor. For an adult, I give the following: Potassii bromidii 2 dr's; Sodo bromidi 2 dr's; Aquae Camph. 2 oz.; teaspoonful every two or three hours, as necessary. The same may be given to children according to age. This is a self-limited disease; therefore, the treatment is palliative during the active stage; but most children, especially delicate ones, generally need tonic after treatment, and great care should be exercised to prevent complications.

Organotherapy of Climacteric Disturbances.—

Bueura suggests the use of milk from cows in heat as a form of organotherapy of climacteric disturbances. He is theoretically convinced that such milk contains exceptional amounts of the internal secretions of the ovaries, and that it might be possible to prevent disturbances from castration if such milk were systematically taken.—Munchner Woeherschrift.

THE TONSILS DURING CHILDHOOD.*

BY ADOLPH O. PFINGST, LOUISVILLE.

The unmodified term, "tonsil" is, as you know, in common usage applied to the faucial tonsils or the masses of lymphoid structure situated between the pillars of the fauces. The interest which at present is being generally manifested in the tonsils has prompted me in the selection of my subject. I have decided to confine myself to the tonsils in early life, both on account of the greater frequency of tonsillar affections in children and on account of the recent application of the complete operation or tonsillectomy during childhood.

Asking your pardon for referring to the development of the tonsils I would call your attention to the fact that the first evidence of their development is noticeable as early as the fourth month of fetal life. At that time an inward growth of the epithelial cells of the mucous surface is noticed at a number of points between the pillars of the fauces forming the so-called tonsillar buds. Soon after their formation a migration of nucleated round cells to the surrounding tissue begins. There is a diversity of opinion as to the origin of these cells, though most authorities believe that they are leucocytes which have left the blood vessels of the subepithelial structures. These cells at intervals are massed into irregularly spheroidal bodies which are called the follicles of the tonsil. They stand in close relationship to the buds bounding them on all sides. Between the first and second years of life the central cells of the buds cornify and hollow them out. In this way blind ducts, the crypts or lacunae, are formed. (15 to 18 to each tonsil). Development often continues in the tonsils for eight or ten years, filling up completely the space between the pillars. Other subjects are seen in whom progressive development continues but a short time leaving a very small tonsil. A few cases have been reported in which no sign of tonsillar tissue was to be found.

The developed tonsils are separated from their surroundings externally by a capsule of dense white fibrous tissue, extending from one pillar to the other. Similar to the histological arrangement of most glands, this fibrous capsule sends bands or trabeculae into the substance of the tonsil, from which smaller fibres form a stroma of support and convey the blood vessels and lymphatics.

The blood supply of the tonsils all comes through the external carotid, some by way of a direct branch of this vessel, the ascending pharyngeal, and some through the ton-

sillar and ascending palatine branches of the external maxillary. These three vessels give off branches which enter the capsule and the trabeculae principally of the upper two-thirds of the tonsils. The lower portion and the mucous membrane are largely supplied by small branches of the lingual. The carotid arteries themselves are separated from the tonsil by muscles, fat and fascia and are from 1 1-2 to 2 c. m. from the tonsil, the internal being somewhat closer than the external. My own experience leads me to believe that the branches which enter the tonsils do so in a very irregular way, as bleeding vessels after tonsil operations have been observed at any part of the glands.

Reference to the latest works on physiology has convinced me that there is practically nothing known of the function of the tonsils except perhaps that they aid other similar adenoid structures in the production of colorless blood cells. The gradual shrinkage after childhood and the absence of appreciable results following the removal of the tonsils seems to me convincing that at least no very important physiological functions can be attributed to the tonsils.

However their exposed position in the throat and their rich blood and lymph supply gives them importance from a pathological standpoint. The crypts furnish avenues for the entrance of micro-organisms which leads to local and constitutional disturbances. The tonsils are also points of local manifestation of such constitutional disorders as inherited syphilis, tuberculosis, rheumatism, anemia, etc. In these so-called dyscrasias, the children have what has been called a lymphatic habit. As a result of some morbid condition of the body all of the adenoid structures, particularly the faucial tonsils, are peculiarly susceptible to disease and to secondary enlargement.

It would be impossible to describe a typical or normal tonsil as they undergo so many changes throughout the first year of life, that a sharp line of distinction between a healthy and a diseased tonsil or between a tonsil of normal or abnormal size can not well be drawn. When the tonsils undergo enlargement it may be due almost entirely to an increase in lymph cells with only a moderate increase of epithelial tissue and fibrous stroma. This constitutes hypertrophy in the strict sense of the term. It is not uncommon to find, besides the lymphoid growth an extensive development of new connective tissue, constituting what is called a hyperplastic tonsil. Both conditions are common during childhood, the enlargement usually beginning between the second and the fourth years. Enlargement of the ton-

* Read before the Jefferson County Medical Society.

sils is nearly always accompanied by enlargement of the other pharyngeal glandular structures. Sometimes the faucial tonsils alone undergo enlargement or the enlargement may be even limited to one of the tonsils. The shape of the enlarged mass varies. It either bulges as a semiellipse into the pharynx from a constricted base between the pillars of the fauces or the base is broad and spread out either laterally or up and downwards, especially the latter. They may attain an enormous size, Fraenkel having reported a case in which each tonsil measured 2 by four inches and weighed three ounces. When very much enlarged they often overlap each other at the median line. Sometimes instead of overlapping their adjacent surfaces become flattened by mutual pressure. The openings of the crypts become very much distorted and often become closed. Whenever recurrent inflammatory attacks have been frequent it is not unusual to find a firm union existing between the tonsils and the pillars. It is common for several or all of the children of one family to be similarly affected, which would point to a predisposing etiological cause for the condition.

The most frequent of the exciting causes of enlarged tonsils are the exanthematous fevers. It has been a common observation that measles, scarlet fever, diphtheria and other infantile diseases are very often followed by enlargement of the faucial and pharyngeal tonsils. Recurrent attacks of acute pharyngitis and tonsillitis lead to hypertrophy. After the age of puberty the tonsils undergo a gradual shrinkage. Hypertrophy developing after that time is nearly always due to syphilis, anemia or kindred affections.

A condition frequently associated with enlargement of the tonsils and also seen in the submerged type of tonsils is a chronic superficial inflammation of the mucous membrane covering the tonsils and the epithelial lining of the crypts. This form of tonsillitis is nearly always accompanied by a general pharyngeal inflammation. It is characterized by the exudation of a mucopus from the crypts due to an excessive migration of leucocytes to the tonsils. The secretion is usually discharged from the crypts during deglutition or during paroxysms of coughing or sneezing, the direct result of pressure upon the tonsils. Very often the secretion remains in the crypts long enough to undergo decomposition and is then discharged in the form of minute masses of foul cheesy material.

These tonsillar plugs are composed of leucocytes, epithelial cells, and bacteria. Sometimes they contain an excessive amount of calcium salts forming calculi or tonsillitis.

The usual symptoms of chronic superficial tonsillitis are recurrent attacks of sore throat accompanied by some pain, especially during the act of deglutition, which is at times referred to the ears. There is frequent expectoration of mucous and sometimes there is a cough. In other cases there are no symptoms and were it not for the expectoration of the cheesy masses they would never be seen by the physician. Tonsils of the kind described are very prone to recurrent acute follicular tonsillitis.

A complication of tonsillar disease not infrequently observed is the enlargement of the lymphatic glands of the neck. These are subject to recurrent enlargement; at times assuming considerable proportions or again breaking down and terminating in abscess formation. It will not be necessary for me to enter into a discussion of the remote danger of glandular infections of this kind.

When children are brought to the specialist to decide whether or not the presence of the tonsils is a detriment to the child, the question should be carefully weighed, for I am quite sure that many tonsils have been removed unnecessarily. I do not believe that every child with moderate enlargement of the tonsils should be subjected to an operation irrespective of symptoms. However, it is now pretty generally agreed that very large tonsils interfering mechanically with respiration, deglutition and phonation are a menace to the welfare of the child. Such tonsils by obstructing the naso-pharyngeal space at times also cause earache and deafness.

Another class of cases in which the presence of the tonsils are detrimental to health are those children subject to frequent attacks of acute inflammation associated with temporary enlargement and general disturbance of several days duration; also those cases in which frequent attacks of peritonsillar abscess have taken place. In cases with recurrent cervical adenitis with or without permanent enlargement there can be but little doubt of the ill effect resulting from the infection entering through the tonsillar crypts.

Granted then that the tonsils are a menace to the child in given cases, we must decide upon a method of treatment. While I may be unduly skeptical. I cannot make up my mind that constitutional treatment or local treatment other than surgical is ever of lasting benefit, in cases where the tonsils are causing trouble. It is not new to you that the trend at present among laryngologists is to the abandonment of the old operation of tonsillotomy and the employment of the more complete operation of tonsillectomy. I have done the operation in children between

30 and 40 times in the last five months and have come to the conclusion that it is a surgical procedure which has come to stay. I employ it now in most cases in which I believe an operation is indicated, believing that if the removal of the tonsillar masses is indicated at all, a complete operation should be the choice over the method which cuts the tonsil in two and leaves half of it. The only exception which, in my opinion, should be made to the employment of the tonsillectomy is in those cases of very large tonsils, without adhesion of the pillars which mechanically obstruct the faucial space where the use of the tonsillotome will do away with the administration of an anesthetic. The gagging of the child in such cases throws the tonsil towards the median line and engages them in the ring far back so that the removal by this means leaves the space between the pillars almost as clean as after a complete enucleation. Under an anesthetic, when the gagging is done away with, the operation with the tonsillotome would be less complete and the dissection should be the operation of choice.

The complete operation should never be attempted in children without the employment of a general anesthetic administered by a trained anesthetist, the drug being pushed to complete anesthesia. I have found that by doing this the anesthetist's mask can be removed while one tonsil is being enucleated and then by allowing the anesthetist a few minutes the patient is soon ready for the removal of the second one. The patient is placed in the so-called Pierce position on the right side with the right arm and leg folded under the body, the face toward the side. I employ an ordinary head mirror for light, reflecting my light from a high candle-power electric bulb.

The instruments employed differ with the operator. I have brought my set for your inspection—some of which are original and others used by other operators.

The technique of the operation in brief is to pull the tonsillar mass into the pharynx with forceps, then beginning above, at the supra-tonsillar fossa the mucous membrane is nicked with a dull dissector and then by pushing it back the tonsil with its capsule is peeled out like the gland in a phymosis operation. When it is freed all but its attachment at the base I employ the cold snare, but believe that the tonsillotome with the fixing fork removed or scissors would be equally serviceable.

One of the difficulties encountered in the operation is the control of the tongue. I employ for this a small depressor so as not to force the tongue against the epiglottis and have the handle short to avoid contact with

the chest of the patient. The manipulation of the tongue is such an important factor to the success of the operation that in my opinion it should be done by a trained assistant. The presence of blood in the field of operation is also an annoying feature. We have been able to keep our field pretty clean with gauze pads either applied with the finger or on forceps. I have never employed an aspirator as was suggested by Pynchon.

For some reason not just clear to me the lower which is the position I employ in the right tonsil is always more difficult of removal than the upper, and in my first six or eight cases lumps of tonsil tissue are visible on the right side to show my early failures.

The only accidents which I have met with so far are the inclusion of the uvula in the snare and its accidental amputation, and in one case rather severe arterial bleeding from a small vessel just behind both anterior pillars. I would like to go on record with the statement that I consider a tonsillectomy a major operation from the standpoint of the operator, the anesthetist, and the patient and that it should be done in an infirmary. I believe, too, that the parents should be enlightened as to the nature of the operation, for the performance of which a larger compensation will have to be demanded than in the simpler rapidly performed tonsillotomy.

The general depression after a tonsillectomy is quite a good deal more marked than in the clipping operation, as is also the local reaction which in several cases I have seen quite severe.

Whether the scar formation is going to be troublesome in after years remains to be seen, and if at the present time I could advance any skepticism about the operation, it is this question of scar formation.

To sum up, I would say that in my opinion conservatism should be encouraged in advising the removal of tonsils, as I believe that tonsils not very large and not diseased do not influence the health of the child. When convinced that the tonsils do affect the general health I believe that the submerged or small tonsils and those in which the pillars are firmly adherent should be removed in their entirety under a general anesthetic, and that the large free tonsils should be subjected to a tonsillotomy without an anesthetic if possible.

However, if at the request of the parents, or for other reasons, these children are anesthetized, I believe here, too, the complete operation should be done to avoid a second operation later, as experience has shown that the removal of tonsils does not influence the child unfavorably.

While there is more reaction in these cases,

I can not at the present, make up my mind that the operation is more dangerous than the clipping operation. Whether remote complications will show themselves, result of scar-formation, remains to be seen.

DISCUSSION.

S. G. Dabney: Dr. Pfingst has introduced a subject which is interesting throat men very decidedly just now.

As a preamble, I wish to show a specimen of some little interest which I did not have an opportunity to show under the head of case reports. This is a post-nasal polyp, which has shrunk to about one-half the size that it was when I removed it. This patient, a young lady, came here from a neighboring town to consult me about her eyes. I found it to be a perfectly typical case of post-nasal obstruction, and upon examination of the naso-pharynx I found it almost completely occluded by this post-nasal polyp which was hanging back into the naso-pharynx. It very prettily illustrates polypoid growth from ethmoidal cells. I believe this young lady did have some slight error of refraction, but I am pretty confident that she will get as much relief from the nasal operation as she will from the glasses.

The tonsils are rather familiar subjects in a way; everybody in this room has seen them cut off. I have here two little specimens that show the advantages of tonsillectomy over the ordinary tonsillotomy. The smaller one was removed from a child's throat under general anesthesia and the larger one from an adult under local anaesthesia—both complete dissections of the tonsil in its capsule. I have put a tooth-pick into the larger specimen, and if you will examine it you will see that the tooth-pick runs right down to the capsule at the back, leaving one-fourth to one-half inch of tonsillar tissue above it. That upper part lies within the folds of the palate and can never be reached by the tonsillotome. The crypt extends back entirely to the fascia or capsule of the tonsil behind, and shows how ineffectual tonsillotomy will be in cases of infection. Certainly in recurrent quinsy, certainly in children who have recurrent attacks of enlarged cervical glands, or frequent attacks of severe sore throat, the complete enucleation is called for; we find in this specimen an explanation of why infection remains in spite of tonsillotomy. Both of these patients had frequently recurring attacks of inflammation.

Just a word about the anatomy and physiology of the tonsils. One or two points in the anatomy are of some interest. One is that the deep lymphatics go to the tonsils from the nose. There is not a specialist in this room who has not seen quinsy follow a nasal operation and felt quite badly about it. I have seen it. In one case I happened to follow Dr. Ray. The patient

told me that Dr. Ray had operated on him and he had had a quinsy following. In view of this I thought I would be extra careful, and I operated on him and he had another quinsy. The quinsy comes from the transfer by lymphatic infection and from the nose to the tonsil.

In regard to the physiology, I think the very fact that we do not know the physiology of the tonsil ought to make us a little chary about doing needless operations. However, it does not seem to be very important, because the tonsils have been completely removed in thousands of cases within the past four or five years, and no injurious effects could be traced to such removals. Of course, these were supposed to be diseased tonsils, but it would go to show that the tonsil does not play a very important part in the human economy.

Robertson, of Chicago, was one of the first to call attention to and advocate complete tonsillectomy. He goes so far as to say that any tonsil that is visible after the twelfth year is a pathologic tonsil. As a matter of fact, I believe that in many of the men in this room, the tonsils are very easily visible, and they do not need operation. I think such views are very extreme and entail a great deal of needless surgery.

In regard to indications for the complete operation; to me the indication is infection—not obstruction. Many children are brought to us with a little deafness, with the tonsils projecting somewhat into the throat, and with an adenoid mass which is the chief thing in the case; they are not subject to frequent attacks of tonsillitis and do not have enlarged cervical glands, but have trouble from obstruction by the adenoids and to a less extent by enlarged tonsils. In such cases I do not see any reason for complete dissection of the tonsils. Those cases are numerous and I think the tendency is to go a little too far with the complete operation. On the other hand, in children who are subject to frequently recurring attacks of tonsillitis, and more particularly in young adults who are subject to quinsy and peritonsillar abscesses, as well as those with enlarged cervical glands, and perhaps obscure cases of mild toxemia, the tonsils ought to be removed completely.

Just a word about what is sometimes found upon operation. Some two months ago a lady of this city consulted a very eminent Chicago physician on account of rheumatoid arthritis, from which she had suffered for many years, and she told this doctor she had also been subject to quinsy. He gave her a very carefully written opinion, and told her the first thing she was to do when she returned home was to have her tonsils dissected out. He also wrote me a letter in which he said he felt confident that clearing out the supra-tonsillar fossa would relieve this woman's rheumatoid symptoms. I did not share his faith in that. However, I dis-

sected the lady's tonsils out completely, which was rather difficult, as she was exceedingly nervous and hard to manage. Near the base of one, lying on the capsule of the tonsil, I found a little pocket of pus—not less than half a teaspoonful. This lady had not had acute inflammation of the tonsils for more than a year. So, you see, we often unexpectedly find a collection of pus.

A word about the difficulties of the operation in children. Dr. Pfingst did not say how young the children were he had operated on, but I believe he told me the other day that he had not operated on any under five years of age. I have tried several times to operate on very little children, who were subject to recurrent attacks of sore throat, and I found that if the tonsil does not project very far into the throat it is a very difficult thing to do. I have seen a great many other men have the same difficulty, but we are able to get out a great deal more of the tonsil even then by dissection than with the tonsillotome.

In regard to hemorrhage, I want Dr. Lederman to tell us an experience he had. I have not seen any very severe hemorrhage following tonsillectomy, but I do not know how soon I will.

As to the technique of the operation, I agree with Dr. Pfingst in the main. I rather prefer the Whitehead gag. I think the tongue depressor is a little long for small children, because I have found that it is rather difficult for the man who holds the tongue down to keep it from going too far back. I do not care much for his snare, because you cannot tighten it up without turning the pivot wheel which makes it rather slow, and takes needless time after it is in place. I like the blunt dissector Dr. Pfingst uses, and I think the tonsil grasper is a good thing. I believe, though, that dissectors working at right angles are a little faster; I know they are in adults.

My conclusions are practically the same as Dr. Pfingst's, except that I believe the field for the old operation is perhaps a little bigger. I recently wrote to representative men in New York, Chicago, Boston and New Orleans, asking them what they thought of the operation of tonsillectomy and in what proportion of their cases it had taken the place of the old one. Dr. Coffin, of Boston wrote that he had not come to any positive conclusion, and he brought out the point that the removal of this large surface, leaving a bare, non-secreting surface, giving rise to cicatricial disturbance, might give the patient some annoyance. The report of the New Orleans Eye, Ear and Throat Hospital, stated that in 1908 they had done 12 tonsillectomies and 190 tonsillotomies. I thought this was rather strange for this hospital, and I wrote to Dr. King about it, and he replied that there had been some mistake in the statistics; that

they had done more than twelve tonsillectomies. He said, however, that, in the main, they did the old operation, but he believed more tonsillectomies should be done.

In my experience, the number of cases that have come back again after tonsillotomy with the tonsils projecting or causing obstruction have been very few, and Dr. Castleberry, of Chicago, has had the same experience exactly. In his discussion at the meeting of the A. M. A. he said that about one in five cases returned after tonsillotomy, and I wrote to ask him whether the symptoms he referred to were those of obstruction or infection. He replied that he referred to infection; that obstruction rarely returned. I am convinced that while obstruction returns only now and then, infective symptoms very frequently recur. I am of the opinion that many tonsils are operated on which do not require it. Not so much the appearance of the tonsil as the symptoms it is producing should be our guide.

I. Lederman: I will not review the anatomy and physiology of the tonsil, with which Dr. Pfingst prefaced his remarks. I believe we are all agreed upon that, as well as the symptomatology.

As to the indications for the removal of the tonsils, I find it difficult to conscientiously make up my mind in a great number of cases. To me the enlarged tonsil is not always a tonsil that has to be removed. Of course, if the tonsil is sufficiently enlarged to cause obstruction, there can be no doubt about it. I try to estimate the amount of damage the tonsil is doing and, if possible I get the family physician to work with me, keeping the patient under observation for a few weeks so as to determine positively whether the tonsils should be removed. In this I refer to the average case. Of course, there are many cases in which it is evident from the first that the tonsils must come out. I have seen a few cases in which the tonsils could have been conscientiously removed, but which, under tonic treatment, improved hygiene, etc., ceased to give the patient any trouble, and they are carrying their tonsils around to this day unless some other fellow has taken them out.

I wish to emphasize one indication which I believe will admit of no argument, and that is infection. If the child has recurrent enlargement of the lymphatic glands of the neck, and is below par, and the family physician tells me he can find no other reason for this condition, I do not hesitate to remove the tonsils. In the presence of all other symptoms, except possibly obstruction, I am always doubtful, and bide my time to be certain that the trouble arises directly or indirectly from the tonsils.

This brings us down to the method of removal. I think we are all agreed that there is only one treatment for tonsillitis; that the

application of astringents, such as nitrate of silver, iodine, etc., is a thing of the past. I make it plain to my patients that there is nothing to be gained by any treatment except removal of the tonsils, unless there is an acute inflammation which demands treatment prior to operation.

The method of operation I have adopted is practically the same as that of Dr. Pfingst and Dr. Dabney, differing in some minor details. The main object is to get behind the capsule of the tonsil and in that way remove the crypts altogether, for which operation general anesthesia is necessary. Up to my last case, I have operated with the patient in the position mentioned by Dr. Pfingst and, although I cannot offer any reason for it, my experience has been just the opposite of his; I have always found it easier to get out the lower tonsil than the upper one. In the last case I operated on, I put the patient in the extreme Rose position and stood in back instead of in front of the patient. I found it to be a very good position.

In regard to instruments, I like the Whitehead gag with the tongue depressor attachment. In the majority of cases I have found that it worked very nicely. I usually operate without an assistant and I have found the Whitehead gag a very convenient one. In some instances the tongue depressor will cause the tongue to be pushed back and the patient will not breathe well, and the tonsils will be pushed away from you instead of being brought forward. Dr. Ray brought back with him from Europe an idea which I have not seen advanced in this country; that is, to pass a thread through the tip of the tongue and pull it out. I have not tried this myself, but I have seen Dr. Ray do it and it seems to be a very good way to bring the tonsils forward and the patient is not aware that the tongue has been touched. Of course, an assistant is necessary to draw the tongue forward during the operation.

Instruments for dissecting the tonsils are numerous, but I have not found any one instrument or set of instruments that possess any great advantage over others, and I have gotten into the habit of getting along with very few instruments. I use any sort of tenaculum I get hold of, putting it through the crypt and drawing the tonsil forward. Then I start the dissection with sharp-pointed scissors and frequently complete the entire operation with the scissors, using the sharp edge to make an incision in the junction of the pillars with the tonsil, and then, with the scissors closed, complete the operation by blunt dissection. I find that, very often, after having exposed the capsule at the upper portion, I can get in with my finger and make blunt dissection down to the base of the tonsil, and then take off the base with a snare.

Like Dr. Dabney, I do not like Dr. Pfingst's

snare. I do not see any advantage in snaring off the lower portion of the tonsil by degrees. The object of the snare is to get behind the capsule and complete the operation quickly. It could really be done with the scissors by dissection, except for the fact that we want to get through with it as quickly as possible.

I agree with Dr. Pfingst that tonsillectomy is a major operation as compared with the old tonsillotomy. That is another point which cannot be dwelt upon in too strong terms. The old tonsil operation I believe to be indicated in only one class of cases; that is, where we have a hyperplastic tonsil, meeting in the middle and giving rise simply to obstruction, and where the tonsils are free from the pillars. In some cases, before we did the complete operation as we do it now, I had been doing partial dissection; that is, freeing the anterior pillar from the tonsil by blunt dissection and then finishing the operation with the tonsillotome. I believe I have gotten out tonsils more completely in that way than I could have done without some dissection.

The after results I am still somewhat in doubt about. I recently saw a case which had been dealt with some years ago, in another city, by the cautery method. This woman had quinsy and tonsillitis and enlargement of the glands in the neck. I found that the tonsil had not been completely removed. By sharp dissection I got it out completely, but a most violent reaction set in, the uvula becoming very large. The woman suffered for about ten days, running a temperature, etc., and after that the tonsillar fossa became filled with cicatricial tissue, which bound together the anterior and posterior pillars, and extended down to the base of the tongue. The last time I saw her, five weeks after the operation, she could not open her mouth as wide as usual and complained of a dragging feeling in her throat. Whether this will eventually be relieved or not I do not know.

In every tonsillectomy I have done so far, the reaction has been much more violent than in the old operation. I find it necessary to keep the child in bed for four or five days, where formerly we sent them out on the same day.

It is claimed that this operation does not increase the danger from hemorrhage, and I really do not believe it does, in spite of an unfortunate experience I had a couple of weeks ago. I have been doing this operation for five or six months, and this was the first serious hemorrhage I had; in the majority of cases the hemorrhage seems to be less than under the old operation. This case was in the person of a child, 8 years of age, who had been under my care, in conjunction with the family physician, all summer preparing her for operation, the tonsils being very large and the indications for removal being both obstruction and glandular enlargement of the neck. The child was anaemic, and was sent to the country during the

spring, and under tonic treatment we had gotten her into as good condition as possible for operation. I dissected out the tonsils under anesthesia and the primary hemorrhage was not greater than we ordinarily expect, but it recurred, the point of hemorrhage being the lower portion of the tonsil. It was impossible to see the bleeding point, the blood simply welling up when the tongue depressor was removed, and the child gagging constantly. The means I used to control the hemorrhage were the application of ice and pressure. I do not believe anything can be accomplished by the use of local applications in children. Previous to this case I had been able to control hemorrhage by simply putting the child at rest and giving a small dose of morphine hypodermatically, and an ice-pack applied to the neck. This child, however, continued to bleed, and just about the time I had made up my mind to administer an anesthetic and find the bleeding point (which was probably two hours after the operation) the child collapsed. She did not spit up any blood but merely swallowed it, and every few minutes would vomit up a basin full of blood. When the child became weak and could not resist any longer, I took an instrument like this and with a cotton sponge, saturated with tannic acid, I made firm pressure for fully a minute on the bleeding surface. At the same time the nurse was giving the child an enema of hot saline, and that was all that was done. The pulse came up in a few minutes as a result of the enema, the bleeding stopped and, fortunately for me and for the child, there was no further recurrence of bleeding. I saw the child a few days after the operation and she is making a very satisfactory recovery.

C. H. Harris: I suppose I have removed the tonsils in twenty-five or thirty cases, and I have never had any hemorrhage of any magnitude. Just today I removed the tonsils from a five-year-old child. I just wrapped her in a blanket, sat her in the nurse's lap and had those tonsils out in less time than it takes to tell it. I have never attempted to do tonsillectomy; that is a difficult operation. Dr. Pfingst has done that for me several times, and I must say he is welcome to the job. Sometimes we see children who suffer repeated attacks of tonsillitis, with bad breath and a nasal twang to the voice, and we see those children improve as a result of taking out the tonsils. I never hesitate to do a simple operation like tonsillotomy. I believe any practitioner with a tonsillotome in his hands, a cup of ice-water and a little applicator to touch the bleeding vessels, if necessary, can do tonsillotomy.

T. K. Van Zandt: It has been my privilege to administer quite a few anesthetics for Dr. Pfingst in his tonsillectomy work. I have used both chloroform and ether, but in the majority of cases in children, I have used straight chlor-

oform. The child is carried into the complete surgical degree, turned in the Rose position with the head completely on the right side, and the cone is removed. The child is sufficiently under the anesthetic to permit the removal of at least one tonsil. Then the cone is again applied and anesthesia carried to the surgical degree, when it is taken off and the other tonsil removed. That is usually all the anesthesia the child needs. After that the body is turned completely over and iced gauze applied to the throat. This position favors breathing very much and the blood does not get into the throat. In most of these cases I have found that the complete surgical degree can be easily maintained until the operation is finished.

J. B. Richardson, Jr.: In the administration of anesthetics for these operations, my experience differs somewhat from that of Dr. Van Zandt. I have found it very difficult to carry these children to the surgical degree until the first tonsil has been removed. I have tried to put them so far under that both could be removed without re-anesthetizing them, but I have been unable to do that.

Owing to the close proximity of the anesthetist to the operator he cannot help seeing and forming opinions of the different methods. I see advantages in one and disadvantages in another. The advantage I see in Dr. Pfingst's operation is the forceps with which he pulls the tonsils forward, which has the handles so arranged that the snare can be applied without the removal of the forceps.

Among all the gags I have seen used, none of them are perfect by any means, but the gag Dr. Lederman uses seems to give him better access than the gags I see other doctors use.

Adolph O. Pfingst (closing): There are only one or two points that I wish to speak of in closing.

I attended the last meeting of the American Medical Association, at which this subject of hemorrhage was discussed, and it seemed that the majority of operators were agreed that the hemorrhage in tonsillectomy is less than in tonsillotomy. This has also been borne out in my own work, for in the first operations we did, where the tonsil was accidentally cut in two, we had more hemorrhage than subsequently when a cleaner operation was done.

I think if we can simplify any operation we ought to do it, and so I believe where children have very large tonsils with free pillars we are justified in the use of the tonsillotome without employing a general anesthetic, but if the child is unmanageable and you have to give an anesthetic, I do not believe there is anything gained by taking out only half of the tonsil and then going back to get the other half six months or a year later. In other words if you have to give an anesthetic, which really makes a major operation of it, I believe it best to do a com-

plete operation. I have done tonsillotomies and had the patients come back and say that the tonsils were giving just as much trouble as before.

In doing a tonsillectomy, the advantages of operating without an anesthetic lies in the fact that the gagging of the child drives the tonsil into the instrument and you are enabled to get it out completely.

ARTERIO-SCLEROSIS.*

By J. W. BOTTS, OWENTON.

Arterio-sclerosis, the definition of which, as given by the various authorities, is, a chronic, inflammatory and degenerative disease of the vascular system, most usually involving the arteries, sometimes the capillaries, seldom the veins, or maybe all three.

It might be well, before entering into the discussion of this subject, to make note of the anatomical fact that the arteries, (taken from Gray) are composed of three coats, viz: The Tunica Intima, Tunica Media, (middle or muscular), Tunica Adventitia, or external.

The general knowledge of this disease at the present day leaves us with the opinion that there exists a thickening of the vessel walls, due to a fibrous growth affecting all three coats, but mainly the intima.

This affection may be diffuse, involving the aorta and its branches or may be nodular and patchy.

A great many various ideas exist, among the different authorities, as to the cause of this trouble, a few being, "Compensatory thickening," disturbance of nutrition with consequent overgrowth of connective tissue. Virchow thought the whole process inflammatory, due to the results of various poisonous substances such as of syphilis, lead and alcohol which might act as irritants to the intima.

Another theory advanced is that it is due to a weakness of the arterial wall resulting from the wear and tear of its continuous use as well as disease, which causes the arterial wall to give way in localized areas or diffusely. (Hydrostatic pressure.)

The latest and the most plausible theory that I find now is that the arterial thickening is a physiological process beginning in early life and continuing by decades.

A thickening of the intima takes place as the result of a stimulus, no doubt for the protection of the integrity of the vessel wall, and this process of protection is necessary to withstand the strain of the gradually increasing blood pressure during the develop-

ment of the body. From the fifth to the tenth year of life, a splitting off of an elastic layer takes place from the intimal elastic membrane, which, with a small amount of connective tissue produces a somewhat thickened intima. This process of changes continues by decades throughout life and a limit of this physiological thickening is reached in adult life.

This is followed by a stationary period lasting perhaps, until the 50th year, but may reach into old age. However, sooner or later, the declining period of the life of the vessel wall sets in and the elastic tissue begins to lose its power of resistance and contractility and the connective tissue comes to the aid of the weakened wall like scar tissue in the process of repair.

It might be well enough to remember that **there are two types of arteries, viz:** The elastic, such as the aorta, carotids and iliaes. The muscular, as of the peripheral vessels. The purpose of the elasticity of the former being to prevent the too sudden forcing of blood into the peripheral vessels, thus protecting the finer structures of the organs from too violent changes of blood pressure. The muscular type being to regulate the distribution of the blood after having reached them.

Both types consist of an elastic, inner layer with a muscular layer surrounding this and from this inner, elastic layer occurs this splitting off of fibers as was mentioned in the first decade of life, occurring again in the second and third decades.

This elastic tissue has very little resisting powers but a high degree of elasticity, hence can be stretched to a considerable degree and return to a normal size again, but sooner or later, this rubber wears out and being unable to withstand the continued pressure calls upon the connective tissue formation in the intima for assistance.

Together with this there may be a degenerative process going on in the nature of the so-called atheroma, beginning usually, in the oldest layer of the intima with subsequent calcification or formation of atheromatous abscess or ulcer and so consistently does this atheroma succeed the progressive thickening that Marehand has suggested the now widely used term, of "Athero-sclerosis," rather than arterio-sclerosis, also because the process is not limited to the arteries, but may occur in the valves of the heart or even the larger veins.

Normally, this process, unmolested and unincumbered by any severe incidents of life, would allow man to reach an uneventful old age and physiological decay. But with the various toxic substances of kidney complications or infectious diseases, or of

*Read before the Owen County Medical Society.

poisoning from lead, alcohol or syphilis, which lower the "rubber" vitality, bring about a premature decay, victims, oftentimes of our own weakness or the shortcomings of the present state of medical science.

As to treatment, the present-day knowledge consists of practically three things, viz:

1. Prophylaxis.
2. Treatment of morbid conditions.
3. Treatment of symptoms and complications.

These subjects will be briefly touched upon.

In prophylaxis, as most infectious diseases are on the decrease, they may not play so important a role in the future, but less strain both physical and mental must be enjoined in susceptible persons as well as in those who have already contracted the disease.

Also less indulgence in meats and more of a milk and vegetable diet, especially where arterio-sclerosis is already present.

Gout, diabetes, lead and obesity must all have suitable attention in affected subjects.

Medicinally—the compounds of Iodine and the nitrates stand foremost, although there is quite a difference of opinion as to their therapeutical effects.

Nitroglycerine, Sodium Nitrate and Amylnitrite act by increasing the lumen of the peripheral blood vessels thus relieving the strain on the heart and reducing blood pressure.

But we are forced to say that we have not, as yet, reached a specific, therapeutically, in this condition and must still hold all due respect to the adage that "Man is as old as his arteries."

THE VALUE OF THE TUBERCULIN TEST IN THE DAIRY.*

By GEORGE P. SPRAGUE, LEXINGTON.

The subject given me would seem to be one in which we must consider not only the medicinal features of the case, but to also approach the situation from the standpoint of the veterinarian and to recognize our duties as sanitary advisers to the general public. In this spirit, I shall attempt to discuss the value of the tuberculin test in the dairy.

In the words of Dr. Melvin, Chief of the United States Bureau of Animal Industry, "Regardless of the question of the communicability of tuberculosis from animals to man, and the bearing of animal tuberculosis on the public health, it is a well known fact that this disease causes heavy financial loss

to the live stock industry, and while the saving of human life affords the highest motive for combatting tuberculosis, the prevention of financial loss is, alone, a sufficient reason for undertaking the eradication of the disease from our farm animals." This feature of the case has not been given the emphasis it deserves and is not yet appreciated by most farmers and stock raisers. Federal meat inspection covers more than half the animals killed for food in the United States, and during the year ending June 30th, 1908, 53,973,337 slaughtered animals were inspected, of which 788,269, or 1.46% were tuberculous. Naturally, only the best animals are presented at the large abattoirs, where there is government inspection, so that we should stop and consider when inclined to recommend home-killed meats. There is no doubt, too, that there is a rapid increase of tuberculosis among food animals. But this is not all; in a paper read at the International Congress on Tuberculosis, last October, a table of 400,000 cattle which had been tested in most of the states of the Union with tuberculin was presented, showing that by this test, 9.25% were tuberculous. In recent years, the reliability of the tuberculin test has been bitterly attacked, and has been the factor which has decided various legislatures against anti-tuberculosis legislation, but of these 400,000 cattle tested with it, 24,784, in which there was reaction, were examined post-mortem, and in Alabama and Arizona, in Maine and Missouri, and Nebraska and New Hampshire, in New Mexico and Pennsylvania, in Rhode Island and South Carolina, in Utah and West Virginia, in every animal killed, tubercular lesions were found, the total percentage from all the states being 98.39. After exhaustive investigations into the cost of tuberculosis, the Bureau of Animal Industry concludes that there is an animal loss to the owners of animals killed under government inspection, of \$2,112,436; of those killed under state and private inspection, \$1,720,000; that there is a depreciation caused by this disease in the value of the animals remaining alive, of \$8,049,998 annually, and that tuberculosis causes a yearly loss of \$1,150,000 in milk, making an annual loss to the stock owners of the United States of more than \$14,000,000. Now, what can be done to eradicate tuberculosis from cattle? for nothing less than eradication should be aimed at. In the first place, we must inform ourselves of the conditions, and energetically spread the facts until our stock raisers, legislators and physicians alike, understand them thoroughly. We must stand solidly with our State Board of Health in its anti-tuberculosis work. We

*Read at Kentucky Midland Medical Society at Midway

must introduce and pass through our Legislature a rigid law for the inspection, testing, condemnation and control of tuberculous animals and herds.

The absolute accuracy in 98% of tuberculin tests can be no longer questioned, but the sample must be fresh, the examination made with care, and the examiner acquainted with the reaction and the methods of use. In the case of valuable herds, it would seem practicable in this state to apply the method of Bang, of Copenhagen, which is now being used in New York and various other states, and which has worked so well in Denmark. Bang, assuming that calves, even of tuberculous dams, are born healthy and will remain so if kept from subsequent infection, isolates the healthy from the infected, tests every individual, both those that have and have not previously reacted, with tuberculin twice each year, killing those cows only which show clinical symptoms of tuberculosis. In this way, without losing valuable strains, or losing many individuals, tuberculosis is, within a few years, entirely eradicated from the herd. But, it may be asked, how does this concern physicians? It concerns us because we are citizens before we are doctors; because, as doctors, we are peculiarly our brothers' keepers, and because of the relation of human to bovine tuberculosis.

In 1896 and 1898, Theobald Smith, Professor of Comparative Pathology at Harvard, demonstrated the differences in culture and virulence of human and bovine tubercle bacilli. Koch took up Smith's findings and announced at the International Congress in Great Britain in 1901, that tuberculosis in cattle and in man were so different that it was safe to conclude that we are very seldom infected by cattle or their products. We are all familiar with the fierceness of the discussion which has been carried on ever since. Out of the conflict have come various facts, accepted by practically all the authorities except Koch, who states "The few known cases in which the bovine tuberculosis is said to have produced a general and fatally progressive tuberculosis in man appear to me not to be above suspicion." Urged to explain apparent proof of the position of various other investigators, almost equally noted and able, that his claims were untenable, Koch, at the International Congress last year, refused to commit himself further than to say that he had never denied the transmissibility of bovine tuberculosis to man.

It has been demonstrated by the British and German Royal Tuberculosis Commissions, and Ravenal, Dinwiddie, Woodhead and others, that the tubercle bacillus of all

animals is the same, modified by its habitat to such an extent that there is a human and a bovine type, that while in rare instances, bacilli from man virulently infect animals, and *vice versa*, the rule is that bovine tuberculosis affects man much less readily than does the human type and human tuberculosis affects animals to a lesser extent than does the bovine type. To just what extent, however, is not yet known. Calmette says, "In my opinion, infection by the digestive route is by far the most important and the most frequent. I admit, with many observers, that the bovine bacillus infects the mesenteric glands." Fibiger maintains that there is a considerable number of cases of bovine infection in children, especially of intestinal and cervical tuberculosis, and that the tendency is more and more toward the belief that these cases are much more frequent than formerly thought to be. Ravenel states, "I cannot agree that the proportion of cases due to the bovine bacillus is insignificant." We have referred to the conditions in regard to food animals, but what are the dangers from tuberculosis in the dairy as far as concerns milk and its products alone? Hess, in a report of an examination of the entire milk supply of Greater New York, for tubercle bacilli, says he found tubercle bacilli in 16% of it, and quotes other observers in the United States and abroad, who found from 6.72% to 28%. Some of this comes from tuberculosis of the udder, which Bang found in one per thousand cows in Denmark, and Ostertag, in 2.5 per thousand in Prussia, although it is believed to be less frequent in the United States. The bulk of it, however, must be due to the contamination of the milk by the cow's feces. According to Shroeder, Superintendent of the Experimental Station, United States Bureau of Animal Industry, about one sample of milk in fifty is free from bovine feces, but that, in the average market milk, there is an amount of bovine feces roughly estimated to vary from one quart to 4,000 quarts of milk in the better grades, to one quart in 400 quarts in the worst. In a series of experiments made by him, he demonstrated that tubercle bacilli in cattle are excreted by the intestinal tract, even where the disease is exclusively pulmonary. He concludes with the statement, "Though I do not wish to give the impression that I believe the bovine source to be of more importance than the human, I am thoroughly convinced that it is one of the very important sources and that the facts, as we know them today, warrant the following general conclusions; it is imperatively necessary for the protection of the public health that all milk should be obtained from cows certainly

free from tuberculosis and from cows stabled, milked and pastured in an environment free from tubercular infection, or that it should be pasteurized or sterilized before it is used in food in any form."

In conclusion, the amply demonstrated loss of millions of dollars annually, to stock owners, with a steady and rapid increase in the occurrence of tuberculosis among animals, renders it advisable for economic reasons alone, that the disease be fought by the owner as well as by the state. It is now known that the tuberculin test is absolute in nearly every case. The Bang method, or modifications of it, enable valuable animals, important herds and special strains to be saved while the disease is being eradicated. The consensus of opinion, after eight years of investigation by the foremost workers in this field, is that Koeh's position is untenable and that thousands of deaths of human beings are annually caused by the bovine bacillus. It would therefore seem that, from every consideration, we should make every endeavor to disseminate information on all phases of this subject throughout our Commonwealth and that we should, as soon as possible, pass laws with proper appropriation aimed at the eradication of all forms of tuberculosis from Kentucky, and then continuously do our utmost to see that the law is enforced.

SOME OF THE INDICATIONS, CONTRA-INDICATIONS AND DANGERS OF FORCEPS IN OBSTETRICAL WORK.*

By O. B. DEMAREE, FRANKFORT.

Had I not the assurance in advance that the gentlemen composing your honorable program committee are all friendly to me, I should most certainly have ample room to imagine that they held some personal grudge against me and have been waiting for this occasion to even up matters. Had they spent weeks in selecting a subject, and with malice a forethought, I assure you they could not have decided on a better plan to expose my ignorance. In the beginning, I wish to tell you that my experience in this branch of obstetrics has been a very limited one.

In general practice covering a period of twenty years I have scarcely averaged a forceps delivery a year. Playfair tells us that no one man's experience in this field of obstetrics should be taken as a guide; this leads me to believe that no one is qualified to write an essay on the subject unless he possesses a

thorough knowledge in this line of work. I do not expect, or even hope, that this paper will come up to the standard of its predecessors. I am depending on Dr. Beard, and you gentlemen to bring out the prominent points in your discussion; otherwise, this article would prove a failure, both to myself and to you. I trust that after this preamble and explanation on my part, that the committee will pardon me for changing the title of my paper, for I would have very little to say unless allowed to include some of the contraindications and dangers to be met with in forceps deliveries.

Garrigues, in his late work on obstetrics, gives but five important indications for the use of the forceps:

1. Deficient uterine contractions.
2. Disproportion between the size of the head and the pelvis.
3. Unfavorable presentations or positions.
4. Danger to the mother and child.
5. Torn-off head.

Jewett says, failure of the pains is not in itself alone an indication for instrumental delivery when occurring in the absence of complications dangerous to the mother and child; under such circumstances the forceps are never justifiable until other means have failed. In other words, the use of the forceps is not justifiable when its use is more dangerous to the mother and child than those of delay.

The strength and endurance of the mother as well as the strength of the fetal heart-tones should be taken into consideration.

Impending exhaustion on the part of the mother is a frequent indication for instrumental delivery; and as a rule when the head is low down in the passage and has been arrested because of feeble pains, labor should be terminated with forceps. Playfair, says, that instrumental interference is always justifiable when the labor pains are too weak to finish expulsion of the fetus by nature's sole efforts.

In mechanical disproportion the parturient canal is either abnormally narrow, or the fetus is too large in proportion to the pelvis through which it must pass.

If we have to deal with a normal fetus, the most common condition of the parturient canal indicating the use of the forceps is contracted pelvis. In slight contraction of the pelvis the forceps has the advantage over other methods owing to the reason that the uterus is less exposed to both septic and mechanical harm.

Garrigues says, the use of the forceps should not be attempted if the minimum conjugate is below 3 inches, unless there are particularly favorable circumstances pres-

*Read at Kentucky Midland Medical Society, at Lawrenceburg,

ent—and exceptionally small fetus and good labor pains—when the limit may be brought down to 2 3-4 inches for the flat and to 3 inches for the generally contracted pelvis. He also says, in all these cases it is supposed that the vertex presents and the occiput turns forward. The scope of this paper will not permit me to go into a description of the different kinds of excessive size of the fetus to be met with. It is especially the large head that gives trouble, not only by its size, but also by its like of compressibility.

Mal positions and presentations calling for the use of the forceps are Occipito-posterior, Mento-anterior, Brow and in pelvic presentations when the breech is arrested in the excavation.

The forceps are superior to all other methods in the delivery of the after-coming head.

Dangerous conditions of the mother calling for instrumental delivery are, hemorrhage, eclampsia, rupture of the uterus, strangulated hernia, fever, exhaustion.

Conditions of the fetus that call for the use of the forceps, are, slowness and weakness of the heart, the expulsion of meconium in head presentations, prolapsus of the cord. Jewett says, low operation is frequently justifiable on minor indications, operation only on major indications.

Forceps are contraindicated in high transverse positions of the face owing to the danger to the child from pressure of the blades of the instrument upon the vessels of the neck.

The delivery of a posterior-face case is impossible as such, and no attempt should be made at instrumental rotation.

Serious accidents are common in careless and violent forceps deliveries. Normal mechanism is often thwarted, and the difficulty of extraction increased by the unskillful use of the forceps.

The higher the head in the pelvis the greater the danger, since the control of the instrument is more difficult, and harm to the upper passage more serious.

Accidents to which the mother is exposed, and which are not always preventable in forceps delivery, are, slight contusions and lacerations of the passage; injuries to the uterus, to the vagina, and especially to the pelvic floor.

To the child the risk of instrumental delivery is greater than to the mother. Fatal asphyxia is common after labors terminated with forceps. When the head and pelvis are proportionate the skillful and timely use of the forceps should, as a rule diminish rather than increase fetal mortality. The conditions necessary for the successful use of the forceps, are, (1) The membranes must have broken, or have been ruptured, before the in-

strument can be applied directly to the head.

(2) The os should be fully dilated, by nature's means, or manually. (3) The head should be engaged in the brim of the pelvis. (4) The position should be determined in order that the forceps may be applied intelligently. (5) The bladder should always be empty. (6) All patients should be anesthetized before instrumental delivery is attempted. (7) Last, and by no means least, all instruments and dressing used about the patient should first be sterilized.

ANEMIA.*

BY J. F. GARVEY, PLEASUREVILLE.

Anemia may be briefly defined as a condition in which the blood is variously altered from its normal state, chiefly, however, by way of diminution of its total bulk, a reduction in number of red corpuscles, and in hemoglobins. It may be classified into local and general, primary or essential, and secondary or symptomatic. It may be subdivided according to its various causes, symptoms, blood changes, etc., as will follow.

Local anemia, or ischemia, is a form of anemia frequently depending upon functional rather than structural changes, and is best illustrated by the pallor of fainting persons and the appearances presented in the first stage of that peculiar and very interesting condition known as Raynaud's disease. General anemia is a term applied to any state of the blood in which any or all of the following alterations may be present—a diminution of the red corpuscles, the hemoglobin, and the total bulk of the blood. Considerable hemorrhage from any source, as from the lungs in phthisis, from the intestines in typhoid fever, from wounds involving large vessels, etc., represents the last of the above mentioned alterations, in which, however, provided the hemorrhage is not fatal, the bulk is soon restored by the absorption from the tissues of water, salts, etc., but the hemoglobin and albumen remain to be restored by suitable nourishment.

PRIMARY OR ESSENTIAL ANEMIA.

Under this head are included chlorosis, pernicious anemia, leukemia, lymphatic anemia and splenic anemia.

The first of these named is characterized by a marked reduction of hemoglobin and is most frequently met with in young women, especially those who are in doors and deprived of exercise, fresh air, and sunlight, a greater part of the time. Others, however, are not entirely exempt from this condition. It is prone to recur in those who have been

*Read before the Henry County Medical Society.

once attacked and is not confined to certain countries or localities, but is world-wide. It is more common in blonds and those delicately inclined than in brunettes and robust persons. Confinement, overwork, poor nourishment, excessive menstruation and exhausting drains on the system are etiologic factors, but masturbation and excessive sexual excitement are not to be overlooked. Chlorosis is frequently associated with constipation, which fact has suggested to some that it is a poisoning of the blood due to absorption of ptomaines, etc., from the intestinal tract. It is claimed to be more closely related to pernicious anemia than was formerly believed, and there seems to be much evidence for proof of such claims.

The morbid anatomy is practically *nil*.

A moderate reduction in number of red corpuscles with a marked reduction of hemaglobin go to make up the principal blood changes which are pretty constant as a rule, and represent the chief factors of the symptomatology.

The excessive reduction of hemaglobin (averaging about 42.3 per cent.) in proportion to the moderate reduction of red corpuscles, (from 900,000 to 1,500,000 to the cubic centimeter, as a rule) is a fairly constant feature; and increased coagulability of the blood is sometimes to be observed. Other but less important symptoms might be mentioned under blood changes, but for sake of space in a brief paper.

Taking into consideration the age, sex, etc., along with the blood changes, menstrual disorders, paleness of the lips and the characteristic yellowish-green tinge of the skin, the diagnosis is usually easy.

The treatment consists of removal of cause, plenty of out-door exercise, hygienic and cheerful surroundings and plenty of wholesome, nutritious food, with iron and arsenic in some form (preferably Bland's pill) and, if necessary, hydrochloric acid in full doses to aid the digestion and increase the solubility of the iron. Rest also, when there has been overwork, is important.

PERNICIOUS ANEMIA.

This branch will be briefly dealt with here as it is infrequently met and as space will not admit of too much detail in so rare and obscure condition.

In this form of anemia there is found to have been a destruction of red corpuscles as well as a primary reduction in number as a result of some deficiency in the blood-making apparatus, together with the reduction of hemaglobin.

The etiology is very obscure—pregnancy, vocation, atrophy of the stomach, chronic gastro-intestinal disease and intestinal para-

sites seem to represent some of the causes. Those past middle age are most commonly affected, but children are not wholly exempt.

The symptoms approach very insidiously, beginning with a gradual progressive weakness, later developing into an extreme debility and so on until the patient is completely prostrated. Strange to say, however, there is no emaciation. The skin takes on a hue varying from a lemon-yellow to one of actual jaundice, which is probably hemato-genous in character; the mucous membrane on the other hand is blanched. Circulatory and digestive derangement are marked, loss of appetite and deficiency of hydrochloric acid being among the latter. If the blood changes are distinctive, the ratio between the reduction of the red corpuscles and the hemaglobin being the reverse to that in chlorosis. The red corpuscles are strikingly enlarged and frequently ovoid in shape, and often irregular. Nucleated red corpuscles are almost constantly present. Eichhorst's corpuscles are usually but not always present.

As to morbid anatomy, but little need be said, so the changes which take place in the bone-marrow, the deposits of iron in the liver, changes in the heart-muscle and the spinal cord, would best be studied at our leisure, in minute detail, from text-books.

The diagnosis is really made from the symptoms and when the disease is well established there is no danger of mistaking it.

The prognosis is on the whole grave, but temporary improvement and even recovery have taken place.

The treatment is the same as in chlorosis, giving arsenic, however, a preference over iron and the use of intestinal antiseptics more consideration. Also antistreptococcus serum has been suggested by good authority, and may well be used against general infection.

LEUKEMIA.

In this form of anemia the blood changes are quite different from those in the foregoing varieties, there being an enormous increase in the leukocytes.

This is justly divided into the acute and chronic varieties, as in some instances it runs a very short course, while in others it may extend over a period of years.

The etiology is very obscure—malaria and syphilis are assigned factors and pregnancy seems to favor it. Theories as to other causes have been advanced, but shall be omitted here.

The morbid anatomy is fairly definite. Alterations in the blood and blood-making

apparatus including the spleen, bone-marrow, and lymphatics are marked. The spleen is usually enlarged and may be adherent to the surrounding viscera. The stages exhibited by the splenic changes shall not be dealt with here for sake of space; however, they are marked and deserve study. The lymphatic glands are not only enlarged, but new ones formed in various organs of the body, particularly the liver and kidneys. This is probably an extravasation of leukemic blood from the capillaries. The marrow changes are varied and extensive. The liver is enlarged and its edges rounded and may be infiltrated with leukemic patches and nodules, while the kidneys may present the same condition. Various other glands are in like manner involved and the heart and lungs seem to be the only organs wholly exempt.

The symptoms are progressive weakness, loss of appetite, indigestion, headache and frequently rapid pulse and moderate fever, and unlike pernicious anemia, emaciation ultimately takes place. Epistaxis sometimes to a fatal degree, and dropsy occur late in the course of the disease. The urine is high-colored and scanty and often albumin is present. The diagnosis is easy with the aid of the microscope.

The prognosis is grave, so far as recovery is concerned which is extremely rare, if at all.

Iron, quinine, arsenic, plenty of fresh air, nutritious food and inhalation of oxygen constitute the treatment.

LYMPHATIC ANEMIA.

As to this form of anemia, we shall not stop to draw a line between it and leukemia, except as to the most marked differences in the blood changes, which is that the increase of leukocytes present in the latter is wanting in the former.

SPLENIC ANEMIA.

This differs essentially from lymphatic anemia and leukemia in that only the spleen, and not the lymphatics, is enlarged and the absence of other marked splenic changes than the enlargement, which also is not so exaggerated.

SECONDARY ANEMIA.

This is the brighter side of the subject, hence reserved for the last.

This form of anemia includes that due to hemorrhage, drain of chronic disease, inanition and toxic agents.

The most common symptom is paleness, which occasionally, however, is not present. As to blood changes, both the red corpuscles and hemoglobin are increased according to the degree of anemia, that of the latter

somewhat in excess of the former. The leukocytes are increased but moderately.

The diagnosis is made from the paleness, general debility and faintness, along with the blood changes.

The treatment is very satisfactory and consists of rest and nutritious food, along with iron in moderate quantities.

Nothing further is needed as a rule.

THE ANTRUM, FRONTAL AND MASTOID SINUSES.*

BY VANNIE E. SMITH, BROOKSVILLE.

To the pathologist, both medical and surgical, the cavities of the human head, present many abnormalities and diseased conditions, varying so considerably in their etiology and symptomatology, that he oftentimes is at loss to know the primary cause of the pathological process, to fully appreciate the symptoms manifested and slow to determine just what line of treatment or surgical procedure to adopt for relief. Of course, to the head specialist the origin of the disease or abnormal state, is not so obscure, the symptoms not so indefinite and to him the requirements for relief of the condition is more apparent than is the case with the general practitioner. The country doctor especially has only an occasional opportunity to study the primary cause and to observe the ultimate effects of the more serious pathological processes that are found in the sinuses and cavities of the human head. So unfamiliar is he with these conditions that, as a rule, he refers them to the head specialist and surgeon for ultimate relief.

In order that we may have a more comprehensive understanding of these cavities and of the anatomical conditions that predispose them to pathological changes, it may be well for us to look first at the anatomy of the parts. As in the anatomy of any other part of the human body, there is normally a fixed and universal formation surrounding these structures, but occasionally there is found an abnormal osseous formation which to the pathologist is of vital importance. There can be nothing new said relative to the anatomy forming the structures. I can only quote the anatomist.

We will reverse the order in which these sinuses are named on the program, and deal first with the antrum, then the frontal sinus and close with the mastoid.

The word, antrum, is from a Greek word meaning cavern or sinus, and is occasionally applied to other cavities of the human body. But the application of the word as here used

*Read before the Pendleton County Medical Society.

is to a triangular-shaped cavity within the substance of the superior-maxillary bone, for this reason it is often called the maxillary sinus. This cavity is also often called the antrum of Highmore, in honor of the scientist of that name.

The base, or inner wall of this triangular shaped cavity, is formed by the outer wall of the nose, its apex pointing outward is formed by the malar process, the roof by the orbital plate, and the floor, which is usually on the level of the floor of the nose, is formed by the alveolar process, the anterior wall by the facial, and the posterior wall by the zygomatic surface of the superior maxillary bone.

In the articulated skull usually there is but one free opening into the antrum, a small aperture through the upper part of its base or inner wall into the middle meatus of the nose. In the recent state sometimes a second opening exists which is covered by the lining membrane of the cavity. The free opening to the antrum is small, sufficiently large, however, to admit a probe to aid in diagnosing, and a Eustachian catheter to aid in treating a diseased condition of the cavity. This aperture is always present and in 45 out of 400 post-mortem examinations, Dr. Oppikofer found one or more round or slit-like accessory openings into the maxillary antrum. The lumen of the antrum is about the size of a bean, although the size varies, depending to a great extent on the size and formation of the maxillary bone. This variance in size of the lumen is less marked in the maxillary sinus than in the mastoid and frontal sinus. The lining membrane of the antrum and frontal sinuses is a continuation of the Schneiderian membrane of the nose and differs from it only in the folded and pleated condition in which it is found in these and the other accessory sinuses of the nose.

As the antrum is formed within and surrounded by some part of the superior maxillary bone, so is the frontal sinus formed within the substance of the frontal bone, each being an accessory sinus of the nose and each having an outlet into the middle meatus thereof, the former by the maxillary aperture and the latter by the infundibulum. The frontal sinuses, two in number, separated only by a thin bony septum, are irregular cavities formed between the tables of the frontal bone and give rise to the eminence at the root of the nose, often called the nasal eminence or superciliary ridge.

In the child the sinuses are generally quite small or entirely absent and as age advances gradually grows larger. As demonstrated by specimens examined, 4 per cent. of the frontal sinuses in the aged were extremely large, extending outward from the median

line from one and one-half to two inches, even to the small wings of the sphenoid bone and having a verticle height of about one inch in the median line. These large size frontal sinuses were usually found in old people. In a few cases examined the septum between the sinuses were entirely absent without any evidence of having been removed by disease, and in a few cases it was found that one or both of the frontal sinuses were absent.

Inflammation of the mucous membrane of the maxillary frontal and other accessory sinuses of the nose is rather common. The membrane lining these cavities is a continuation of the Schneiderian membrane and any acute inflammation of the nose most usually involves the accessory sinuses. Therefore it will be convenient to consider the etiology and pathology of acute inflammation of the antrum and frontal sinus together except in disease of the antrum, when the predisposing cause is the root of a tooth projecting into the cavity, causing caries and suppuration of the cavity. Acute rhinitis from any cause, is generally followed by inflammation of these sinuses. Pneumonia, scarlet fever, diphtheria, measles, typhoid fever and other infectious diseases, generally involves these sinuses. Nasal polypi, deviation of septum, enlarged turbinates and hypertrophy of the mucous membrane and any deformity of the nose, which during an attack of rhinitis, interferes with drainage may dam up the secretion and cause an overflow into the cavity, which acts as a reservoir for the accumulated secretions and an infection of the cavity follows. This condition is more liable to follow an inflammation of the frontal sinus and the ethmoid cells. Traumatism such as fractures or injury to the frontal bone on or near the nasal eminence or injury to the anterior of the antrum sometimes results in empyema of the sinuses.

The two prominent symptoms of sinusitis, are pain and discharge. The pain may be a dull ache in the supraorbital region, or it may be an exceedingly severe one localized to other parts of the head. When there is frontal sinus suppuration the pain is often referred to the ear, side of the head or mastoid region.

These headaches commonly, are the reflex irritation of the branches of the supramaxillary, supraorbital, and other divisions of the trigeminus, which so richly supply these parts. When we have a case of headache of an acute or chronic nature, where the oculist can't find no error of refraction, where there is no grave pathological condition of the alimentary tract, no uremic or neurasthenic condition existing, no pyrexia or trauma-

tism, and the presence of a discharge, whether anteriorly into the nose or posteriorly into the nasal pharynx, we can suspect some trouble in the sinuses as the cause of the headache. In frontal sinusitis, in inflammation of the antrum, whether acute or chronic, and in many pathological conditions of the accessory sinuses, and of the nasal cavity itself, we find that headache is a prominent symptom and one of much value to the diagnostician. As an aid in diagnosing sinusitis the temperature is not of much significance. It may be high or low depending on the character of the infection and the disease which it complicates. Transillumination, by means of a rheostat, has been used to some extent in recent years successfully as an aid in the diagnosis of acute and chronic suppuration in the accessory sinuses of the nose, although its use has been subjected to much criticism.

The treatment of sinusitis, acute and chronic, is constitutional and local. The constitutional treatment should be directed to the disease, with which the sinusitis is complicated. The local treatment should be directed toward thorough drainage of the nasal cavity and the diseased sinuses. If the nasal mucous is swollen, which is usually the case, sprays of adrenalin (1-10,000) will be effective in contracting the membrane and promote better discharge. Normal saline solution, by means of a syringe, cleanses and is an aid in keeping the membrane contracted. A one per cent. solution of cocaine is, perhaps, the most potent remedy in contracting the membrane, but its use, unless administered by the physician or nurse, is attended with more or less danger. Whenever the antrum is filled with secretion, the indication is to establish free drainage. To accomplish with best results, an opening by means of trochar is made from the inferior meatus, through the inner wall of the antrum at its floor. Through this opening a canula or Eustachian catheter can be passed and the cavity thoroughly irrigated. Where there is much suppuration and the demands are urgent, this should be done twice daily and as the condition improves, once daily as long as indicated. If the diseased antrum is due to a bad tooth or the root of a tooth penetrating the floor of the antrum, the irritating tooth should be extracted and drainage made through the alveolus. The predisposing cause, whatever it may be, should be corrected first and then the diseased antrum should be relieved of all accumulated secretion, fungus growths, earies and all source of irritation. To accomplish this, radical operation oftentimes becomes necessary and a free entrance to the antrum demanded for ultimate relief.

There is a difference of opinion among rhinologists, as to the most practical point to enter the antrum. Dr. Onodi and other European rhinologists seem to favor an opening from the inferior meatus of the nasal chamber, through the inner wall of the antrum, while the leading American rhinologists prefer an entrance to the cavity through the anterior wall. Dr. Onodi has described an instrument which combines the principle of the trochar and cutting forceps, with which he claims that an efficient drainage opening can be made through the inner walls of the antrum from the inferior meatus. The position of this opening, he claims, insures excellent drainage of the sinus and permits efficient cleansing, irrigating, and inserting of gauze into the cavity.

The only radical method of operating for cure of chronic disease of the antrum, that I have ever witnessed, is the operation done through the canine fossa of the facial surface of the bone. This operation has been in common practice in New York City for several years, and had its origin and development as a practical operation, in the nose and throat department of the Post Graduate School and Hospital of that city. Anesthesia for this operation is secured by the hypodermatic injection of the parts with a one per cent. solution of cocaine. The nasal wall is also anesthetized with cotton pledgets soaked in a twenty per cent. cocaine solution.

For cosmetic reasons the point of entrance from the canine fossa is reached by everting the lip and dissecting the tissue from alveolar process and the canine fossa, sufficiently wide and high to reach the point of puncture just above the floor of the antrum. A large opening is made through its anterior wall and a satisfactory view of the diseased interior is possible, which is not the case when the opening is made through the nasal chamber. With curette all diseased tissue can be removed with comfort and dispatch by the operator and cleansing, drainage and after-treatment facilitated by this method. The amount of bleeding during this operation is comparatively small.

In treating disease of the frontal sinus, in order to secure thorough and effective drainage, it sometimes becomes necessary to remove part of the middle turbinate bone, which partially obstructs the opening from the sinus and prevents the escape of secretion. Occasionally, the condition is so grave and drainage through the normal opening, the naso-frontal duct, so inadequate, that an opening through the anterior wall of the sinus becomes imperative. In treatment of this cavity, as in the antrum and other accessory sinuses of the nose, a free opening

should be had and through it efficient drainage maintained.

The mastoid process is located at the inferior and posterior part of the temporal bone, and forms the prominence just back of the auricle of the external ear. It is so called because of its resemblance to the teat or nipple of the mammal. Within this process is found a series of irregular cellular spaces, varying considerably in number, size and form. These sinuses communicate with each other and through the opening of the posterior of the tympanum, communicate with that cavity. Sometimes this opening is unusually large and accompanied by a number of smaller apertures, thus forming an unusual free communication between the cavity of the middle ear and the mastoid cells. This condition, as is obvious, furnishes a free inroad for bacteria to enter the mastoid cells, and predisposes them to an easy and rapid infection. The function of the mastoid cells, so closely placed to and peculiarly connected with the tympanic cavity, seem to be to intensify sound. In proof of this conclusion, it is evident that subsequent to a pathological process in the mastoid cells, with or without surgical interference, and where as the result of such diseased condition, the cells are more or less obliterated and where there is no appreciable injury to the middle or internal ear, there is present, invariably a lessened acuteness in receiving and appreciating sounds.

The mastoid cells, like the other sinuses mentioned, are not fully developed in childhood. The age of puberty seem to be the period of life when these cells begin to undergo active development. However, occasionally in the child, we find an unusually large mastoid process, without evidence of any pathological condition having existed.

While it is true, that the mastoid cells are not developed in childhood, the experience of such otologists as Bryant, Douglas and others, is such as to warrant them in assuming that the conditions which predispose to mastoiditis, have their origin in childhood life, that during early life, we find the beginning of the majority of the abnormal conditions, which later in life becomes the primary cause of an infection of the middle ear cavity and the resulting mastoiditis. These various conditions of the naso-pharyngeal tract, common to childhood, if not relieved, become more serious as age advances and as a natural result, the respiratory current is interfered with, the ventilation and function of the Eustachian tube is impeded and oftentimes these abnormalities are so serious that they cause an obstruction to the blood current, resulting in passive congestion of the mucous membrane of the Eu-

stachian tube and drum cavity, thus interfering with the natural drainage. Hence, a retention of toxine and an undisturbed multiplication of bacteria in the middle ear cavity and a natural tendency to an infection of the mastoid cells.

Douglass says, "that in all his experience as an otologist, he cannot remember one case of mastoiditis, either in the young or the adult, where there was not glaring departure from the normal, in the naso-pharynx."

We can appreciate this statement from Douglass, when we bear in mind the fact, that the lining membrane of the naso-pharynx, and of the Eustachian tube, that of the middle ear cavity and of the mastoid cells, is the same thin, vascular, ciliated epithelial membrane continuous through all these structures. Then from a pathological point of view, we see how essential it is to remove all disturbance from the upper respiratory tract, as a prophylactic measure against mastoiditis. While mastoid disease in the majority of cases is traceable to an infection one of the pathological processes above referred to, many times the infection is due to other causes. It may develop from chronic purulent otitis media. It may and occasionally does develop in the strumous, tubercular and other subjects, where there is a general systemic poisoning, the mastoid cells becoming the primary seat of infection, or the receptacle of the poison, and thus expresses itself as mastoiditis.

Then our conclusion is that prophylactic treatment is successful in preventing mastoiditis. That preventive measure if applied by way of correcting and modifying abnormalities of the respiratory tract of the child, you will to a marked degree, remove the predisposing factors in the causation of mastoiditis in the adult. That prophylactic treatment of mastoiditis, demands orthopedics of the nose, it demands the removal of all localized conditions that prevent the free entrance of air into the head, it means the correction of any disturbance of the mucous membrane, not only of the upper respiratory tract, but of the Eustachian channel and tympanic cavity. The proper treatment of these pathological conditions, will be to an appreciable extent a successful preventive treatment of mastoiditis.

Relative to the efficacy of abortive treatment, it is vouchsafed by many leading otologists, that if commenced early in the attack, an inflammatory process of the mastoid cells, can usually be relieved without a mastoid operation. That mastoiditis is amenable to abortive treatment. In treating mastoiditis, the first indication is to relieve the co-existent middle ear inflammation, by effective

drainage and frequent douching with a non-irritating antiseptic solution.

Means for combatting localized infection of the mastoid region, is similar to those for grave infection of any other part of the human body, as far as general treatment is concerned. Heat, cold, blood-letting and incision are the means most commonly used. The choice of heat or cold is one of personal preference, though the action of these thermal agents are very dissimilar, cold lessens the blood supply and chills the part, while heat stimulates circulation and produces active hyperemia.

Blood-letting has been practiced extensively for the relief of mastoiditis.

By leeches, living or artificial, applied over the tip of the mastoid, by superficial incision of soft parts over the process and other means of blood-letting are practiced.

Perhaps one of the most antique methods, and yet popular at this time with some otologists, of aborting mastoiditis is what is known as Wilde's incision. This method is to make a deep incision over the mastoid process cutting through the integument and periosteum. Dr. Bryant, of New York City, considers this the most simple and effective method of aborting inflammation of the mastoid cells, next after tympanic drainage.

There seems to be a great difference of opinion among otologists as to how long to continue abortive treatment before taking up operative treatment. Some recommend an operation as soon as a diagnosis of mastoiditis has been made, while others delay for a number of days. Here, as elsewhere in medicine and surgery, no absolute rule can be adopted. However, if the abortive treatment of mastoiditis is to be successful in the relief of the condition, and the necessity of a radical operation obviated, the treatment must commence early in the process and be administered with vigilance and judgment.

CHANGES IN THE CIRCULATORY APPARATUS WITH CHANGE OF POSITION.

Dietlen in the *Deutsches Archiv für Klinische Medizin, Leipsic*, tabulates the details of 66 cases in which the change in size of the heart was most striking as the individuals reclined or stood. The normal heart grows smaller as one stands, while the pulse increases. But these changes are not observed in the elderly and in those with heart affections. It is evident that auscultation of the heart may be misleading unless the patient is examined both reclining and standing.

WHAT THE MEDICAL EXAMINER NEEDS AND HOW TO PROVIDE IT.*

By W. ED GRANT, LOUISVILLE.

In the October issue of the KENTUCKY MEDICAL JOURNAL in a note calling the attention of medical examiners in our state to the importance of their work, the editor makes the very pertinent suggestion, that self-interest as well as common honesty should compel all medical examiners to fully equip themselves for this their especial line of work, so that the life insurance companies may be assured that they always get the services they are paying for. I had just written a letter to the JOURNAL calling attention to this meeting of the Kentucky State Medical Examiners' Society and urging examiners to attend it because of my conviction that they need the help that meetings of this kind can give them; they need to have their attention called to their duty of always making the interest of their company the first consideration; they need tact; they need self-reliance; they need to know well how to bring out all impairments which belong to each case and a system that will insure their giving an accurate history of every applicant brought before them for examination.

Let us as examiners get the proper point of view of the position we occupy. We are officers of the Medical Department of our company, we are its trusted, confidential advisers, we are the only representative present of our company when the examination is made upon which the contract which the company is about to enter into is founded. If it is possible for the medical examiner by the aid of tact, quickness of perception and good judgment to find out any shadow of cause why the obligation which the company is about to assume will be an unfortunate one from a financial standpoint, then he must have the courage and honesty of purpose to do for the company what he would have it do for him under similar circumstances, viz: tell the truth and point out every handicap he has discovered. He need make no display of this, if for reasons of good policy he thinks best to send information in as a confidential communication, it will be perfectly satisfactory for him to do so.

By all means, let us as a sacred duty, safeguard the interest of the company as faithfully as we would do our own if we were the contracting parties. The only way to insure our always keeping alive to the importance of this, is to be certain that we at all times put ourselves in the company's place.

If we can understand the great value of

*Read before the Kentucky State Medical Examiners' Society.

self-reliance and see in bold relief our plain duty to protect the company in our capacity of examiner, we can cultivate this important qualification and make of it a foundation on which to stand which will be as firm as adamant.

Without tact examiners will make many blunders and failures which might easily be avoided. It is this qualification which helps the examiner to trim his way safely through the pitfalls set for him by agents who can see nothing but self-interest in every prospect they develop. It is most unwise to openly antagonize an agent, it matters not what suggestion he may make. It is far better to say but little, and quietly make some excuse for pursuing the course which your better judgment dictates and not enter into any discussion of the subject. The agent has in many cases worked very hard to secure the applicant's signature, and perhaps it will require a good deal of your tact to complete the examination, it is only fair that the agents should be courteously treated, for without their efforts the business would come to a standstill. Tact helps us in the management of applicants we are requested to examine. The tactful man will keep the applicant in a frame of mind which suggests to him that he is doing a wise thing and the step he is taking will be of great financial advantage to him. If the applicant has changed his mind and does not want to be examined, tact will help the examiner to complete his part of the work, get his signature to the blank and the specimen of urine, on the ground that what he is doing is simply a form to save the necessity of his calling again in case the applicant should yet decide to be examined. This work being completed the applicant may think he will never hear of the subject again, but if the risk is a good one it will not be long before the agent comes around with the policy with a first rate chance of selling it, because it looks like money, and a sight of it creates a desire in the mind of the applicant to possess it. In such a case, good tact has helped the examiner to do a good thing both for the applicant and examiner.

Now, what are we to say about the art of an accurate historian? An accurate historian of any people or country collects all the facts which belong to that history with great care and painstaking. He spares no amount of labor until all the facts which are to become a part of this history are in his possession, and then he arranges them systematically and in order in book form, leaving out nothing which his judgment, knowledge and experience tells him is important

and dwells very lightly on unimportant matters.

Let us see how this applies to the work of a life insurance medical examiner. An applicant is brought before him, and he proceeds to get a history of the case, and having secured a correct and thorough history, he makes a record of it all on the examination blank as briefly as possible, but never sacrificing clearness and exactness to brevity. To secure this history may have cost him in many cases, almost no time nor trouble, but on the other hand it may have been secured with much difficulty in the way of visiting or corresponding with others who are in possession of important facts belonging to the history of the case which the applicant is, of his own knowledge, unable to give, and in case he can and does give the information, in some cases must be verified by disinterested witnesses, as, for instance, in the case of questionable habits, suspected history of phthisis in members of the family, etc.

If the examiner would think a little and reason with himself, he will discover that the examination blank tells him just what facts he is expected to collect. He finds in reading over carefully the questions on the blank that he is expected to get accurate information about an applicant's occupation, both present and past, that he is to find out if his surroundings and occupation are healthful, and secure accurate information touching his habits as regards temperance and learn whether he has ever applied for insurance without getting the policy applied for, and if not, why not and when.

He is to get accurate information about all diseases applicant has had since childhood. No ambiguous or uncertain terms must be used. If, for instance, he has had rheumatism, he must specify what kind, etc. He must secure the name and date of each attack, the duration and severity of each attack, the length of illness, and lastly, the result; did he recover completely. He secures all the information touching the family history needed to enable the Medical Director to tell at a glance whether the impairments brought out by this examination are trifling or proscriptive. All he wants is facts, particularly relating to father, mother, brothers and sisters.

"Do not know," for answer about cause of death, length of illness and time of death may often be taken about grandparents, but this cannot be permitted about nearer relatives, and if the history even suggests tuberculosis, the date of death must be given, and the question of recent exposure to any infectious disease, carefully considered.

A history of the pulse includes its tension,

its regularity and number of beats to the minute. The age is verified by applicant's appearance. Auscultation in a quiet place with the ear next to the chest will detect heart murmurs or rales connected with the vesicular murmur, if any are present, and sight tells us the color of the complexion, hair and eyes, whether or not the conformation of the chest is normal and detects physical deformities.

A good tape measure gives the correct measurement and a scale gives the exact weight which must always be secured in the case of an applicant who is below or above the normal in weight, and inquiry will bring out all facts about recent loss or gain in weight, and the reason why.

An examiner knows that he must know, that the specimen of urine which applicant gives to him is authentic, and it must in every case be examined with care for the specific gravity, albumin and sugar. Having secured all this information and made a record of the same in the proper place on the examination blank, together with applicant's signature to the same, the competent examiner reads the blank over carefully to satisfy himself that there are no errors nor omissions and at the same time he is asking himself whether or not the answers contain all the information which will be needed by the Medical Director to determine the value of the risk. He says to himself: Is any collateral information needed to clear up any ambiguous points in this history? If he discovers there is, he puts it in a foot-note on the blank or writes it on a separate paper, headed, "Additional information," and having signed it, pins it to the examination blank.

Now, let us reflect a little about collateral information and see where it is likely to be needed. It is likely to be needed in many cases. It may be needed about habits and occupation, it is almost certain to be needed in the case of previous rejections, blood-spitting, syphilis, a history of several attacks of the same disease, such as inflammatory rheumatism, pneumonia, bronchitis, indigestion, asthma, diarrhea or dysentery, neuralgia or disturbances referred to in the circulation. It will be needed in a history of renal or hepatic colic, chronic cystitis, frequent headaches, epilepsy, sun-stroke, puffiness about the eyes or feet and vagueness in family history, such as "mother dying of grief after a year's illness, at the age of 40," etc. Light and heavy weights nearly always need collateral information, which is nothing more than an explanation which is intended to make clear the importance of any handicap in any part of the history of any case we

may be called upon to examine. The all-important thing is that we know a handicap when we meet it, and are alive to the importance of sending sufficient information in such cases to enable the medical director to act on the case without further correspondence with the examiner or any one else.

THE MEDICAL EXAMINER'S REPORT.*

By DAVID C. MORTON, LOUISVILLE.

After the making of a life insurance examination and before the final disposal of the report, how many of us pause to reflect upon what a small item we have been in the machinery. By machinery, I mean all the long chain of events from the agent's big feat of landing his applicant, his reducing the application to the written page, through the engagement for the medical examination between applicant and doctor, to the clerical detail in the agency, transportation to the head office, the journey through its myriad of channels, classification, inspection, statistics, committee, appeal, etc., the engrossing of the policy, the return journey, then more clerical machinery in the local agency, to the pocket of the agent, and then finally the fight for delivery and settlement.

The average time consumed by the examiner is an hour or thereabouts, in making the proper examination and preparing his pen picture of a man who has decided upon the very unselfish step of providing for those dependent upon him even long after he himself shall have ceased to be. The small item is one of time only. The examiner sends his report to the proper place after making a record of the name and address of the applicant and a charge against the company with the absolute assurance that he can spend his fee forthwith; so good an asset to the doctor is what the company owes him. Six months or more might have elapsed since the agent began in a consistent effort to make the examination possible, one hour or less for the doctor, thirty days may follow before the policy is tucked away by the insured; and there's a smile on the face of the agent. Since one little hour, so brief when the whole is considered, may make or mar the transaction, it has struck me that a little study of the character of the doctor's pen picture is worth our notice. The present use of the term, "pen-picture," was first very aptly drawn to my attention by a distinguished medical director, whom I have the pleasant duty of serving.

Time was when I thought that all medical examination reports looked alike to the home

*Read before the Kentucky State Medical Examiners' Society, Louisville.

office, every one with "yes" to the recommendation to go to the engraver for embossing a contract, the "no's" to the scrap heap. Just a little peep inside convinced me of the fallacy, which I am sure is not rare among medical examiners.

If you are a medical examiner, you have gained your most promising introduction to your company, when you have shown neatness and method in the purely mechanical aspect of your report. If you have forwarded blots, splotches, illegible words and a wholesale irregularity in the arrangement of answers to questions, you have presented your handiwork to the home office group to be greeted with a groan. If you make as few as a dozen examinations a year for any company in the county, your reputation as a good, bad or indifferent workman is established. So workmanship is no small item. The examiner, insofar as he draws a picture, is an artist, neat or untidy.

Some examination blanks are so arranged that "no" is the prevailing answer, others the reverse, still others lean to a hodge podge of "yes's," "no's" and other things to insure the doctor's having read every question before recording the reply. But in every form there is opportunity for neat alignment of answers—so plain that he who runs may read. I was very much interested once in a discussion among a representative group of medical insurance experts when the question of uniform blanks for all companies was opened. One director announced that every medical director would gladly assent to a uniform blank, provided only his particular form were chosen for the model. As such debates usually terminate thus, we must accept the situation and not complain of our implements.

In a pyrotechnical paper once read in this city a virulent tirade was made against the prevailing forms of blanks. The gist of it was the utter superfluity of questions and many repetitions of the same question. The writer was an expert of considerable experience, but mayhap he does not review the work of others from fields remote or near. This superfluity and repetition is not designed for you and it may be not for me, but necessarily for the general average, which is always open to some improvement. Whether then the forms are commendable or subject to criticism, they are as they are, and upon them we draw our picture. Having in mind any given form, let us proceed with our deposition of it.

It is an advantage, I think, to have before us the application proper, that is the work of the agent. We are called upon to record the applicant's name and his age at last birth-

day. Very frequently the applicant is approaching a birthday and has that one in mind. By carelessness, an examiner may be misled to record a discrepancy between the date of birth and age at last birthday. The net result of this error is a delay in the issuance of a policy until the proper figure is conformed in writing. Some forms ask, "What illness, etc., have you had since childhood?" How often none is the reply. Be not hasty in recording the word none, but be sure of it after a little cross-questioning, by asking whether he has had occasion ever to consult a physician. Frequently, this tactic draws forth important items in personal history. Time and again the applicant acknowledges an attack of indigestion in the recent past. A mere statement of "Indigestion in June, 1908, 4 days' duration, complete recovery" is of no value whatever, unless more details be given. Just such a case came under my observation within the past two weeks. I wrote to the examiner in point and requested him to have the applicant secure from his attending physician a statement of the details of the malady. The reply was that for awhile the condition strongly simulated appendicitis, a detail of evident value to the medical director. For more frequently indigestion as recorded is trivial; it should be so determined and so recorded by the examiner. Rheumatism is another reply we so often receive, and it is a term covering a multitude of minor and inconsiderable as far as possible removed from genuine rheumatic fever. It is needless to say that the distinction should be accurately and tersely drawn.

The other day I was asked to examine a man, who claimed to have had no illness since childhood. He had been rejected ten years ago because some silly doctor had told him he had a heart murmur. But that must have been untrue, he remarked, because he had gotten by a lot of other local examiners for insurance aggregating \$17,500. I asked him why he supposed he should be thought to have a heart murmur. He replied that he had had three attacks of rheumatism. This is a fairly good record for a fellow never ill. He had a murmur at the base and none at the apex. In routine examinations on the part of men looking for fees and not for service it is quite often forgotten that the average human heart has a base. Before passing the record of rheumatism, never fail to state specifically the exact number of attacks, with severity, extent of involvement, exact date and duration of each. Malaria is another bug-bear. When an applicant passes this word across the desk to you, it is quite expedient to discuss the probability of a

mistaken diagnosis. Frequently, at such juncture, biliousness is substituted, and then one finds himself out of a frying-pan into the fire. In this overworked term, we have to exclude colic, or any other suspicion of appendicitis, renal calculus or gall-stones. Frequently, consultation with the attending physician is necessary. Your reputation at the home office waxes mightily when you enclose a necessary statement without having it requested. Spitting of blood is a point on which many a worthy applicant is thrown down. Be not weary in well doing by him in your efforts to locate and record accurately the cause and origin of the blood. Nearly every man of even mediocre intelligence nowadays is sufficiently frightened by the incident to seek advice and aid, and consequently the verdict of an attendant is usually easily procured. Whether or not such is done, forget not to record the exact date of the occurrence.

Some forms require of the examiner the character of the applicant's occupation. Pardon me for mentioning that merchant, book-keeper, clerk, mechanic, etc., are absolutely useless answers unless the line of trade is included. We forget sometimes that in this answer we frequently give much aid in determining occupation and moral hazard. When an applicant is in the liquor traffic, his exact duties therein should be studiously recorded by the examiner when no special extra blank is provided for the purpose. This should be done regardless of what has already been written by the agent, for examiners are regarded very properly, as checks upon agents.

Lack of accuracy in family records is an endless source of annoyance to the receiver of examiner's reports. If an examiner makes certain statements that such and such members of his family died of stomach trouble, bronchitis, or liver disease, the doctor's duty has but barely begun in completing his record. When an applicant has to subscribe to the correct record of his answers, it is necessarily up to the examiner to record them as given, but he should insert in small figures the year of death after each such case and under that convenient heading, "Remarks," over which the applicant has no control should indicate whether or not after careful inquiry, tuberculosis, insanity and cancer can be excluded. A paragon of intellect is not required in any examiner, but he is expected to indicate most clearly that he has made a determined effort to record facts—not guesses. Before leaving tubercular family records, never fail to state whether the applicant lived in the same house with the deceased member of his family, a factor of in-

creasing importance as the transmissibility of tuberculosis is becoming better known.

An almost endless variety of arrangements to get at the applicant's use of alcohol is offered in examination forms. The reason for it is the same as for the number of drugs prescribed for certain intractable maladies—none produces the desired result.

If every examiner would but act upon the following plan, generally speaking, some good would be the outcome. Does the applicant ever use alcohol to a state of intoxication; if so how *frequently* and how *recently*? There is a great class of men who call themselves and actually believe themselves to be moderate drinkers. But in their faces, their tell-tale pulses and hearts, how woefully often is the poor, worn-out term "moderate" used to describe a very wide range. It must be admitted that this particular portion of the record is frequently most perplexing, but if we exercise due diligence, we can clear the situation immensely.

There are numerous other points in history taking which no stereotype form can possibly cover—those finer items which so clearly separate the sheep from the goats among doctors.

The history completed, the signature acquired, we naturally turn to the physical examination, and of the record of it very little need here be said. A physician's ability to record intelligently a physical examination is in direct proportion to his ability to make one. There are a few requirements, however, that are not sufficiently disseminated among us as to be generally known. One is: In reporting any abnormality in the urine and predicating our recommendation upon that finding, it is necessary to record that such finding has been made in two specimens of urine obtained on different days, preferably also at different times of day. If every applicant is told that it is often necessary to see him a second time for another specimen of urine, he will be prepared for the call, and thus many times render proper record, making an easier task. Another item is the weight. It is absurdly easy to write "est." or "exact" above the weight in such forms where, "Did you weigh the applicant," is not categorically put. The question, "Has the applicant any mark of identification?" receive an array of most absurd replies. "Light hair," "blue eyes," "bald head," "false teeth," and even "pleasant smile," are known to be recorded repeatedly. This question is designed largely for the purpose of fulfilling the possible necessity of identifying a corpse, perhaps recovered from the bed of a stream or disinterred in order to settle a contest over a death claim. If such

a mark as "scar on neck," or "scar on knee" is given, the origin and cause of the scar should be recorded; for otherwise the examiner will be requested to supply more definite information.

It has not been my effort to take up every possible question put to us by insurance companies. I have mentioned only a few that a random memory of the work I have seen recalls to me. Applicants frequently ask why there are so many questions, at the same time slapping themselves on their chests with the self-satisfied statement that they are as sound as a dollar. Let the wondering applicant and the examiner who harps on superfluity realize that there is a good reason for every question. So they should all be put as asked, the result will be to the examiner that he will gain a degree of accuracy and completeness in history-taking otherwise unknown to him.

Now, finally for two points more: First, the recommendation; do not by any lapse of judgment, both praise and damn a man on the same sheet of paper. Second, Remarks; the eighteen square inches, more or less of space are not designed for the worthless twaddle of the garrulous examiner, but rather for the amplification of such conditions as could not be fully set forth in the body of the report, through lack of space therein, or for the terse description of such other conditions as could not possibly be foreseen by the designer of the blank.

Every report should be re-read by the writer; for we might frequently be startled by a letter from the home office informing us that we had sent them a picture of a man lacking in a head, a heart, kidneys, a liver, lungs, or "lights."

DISCUSSION.

John G. Cecil: I will relieve your minds at once of any idea that you are going to be imposed upon to the extent of having a lengthy address from the chair which I am occupying.

Gentlemen, this organization has had an existence of four years. It is an organization, the necessity of which is apparent to any man who has ever done any life insurance work. That it has not grown more, is, I think, simply because we have not pushed it as we might have done. There is no question in the mind of any one who does business of this kind, and practically every first-class practitioner in the State has work of this kind to do, that an organization of this kind will be of great benefit to them. The work itself, is a work that is well paid for, and a work which most of us like to do. We should, therefore, take advantage of every opportunity to better fit ourselves for the work and the discussion of the various subjects brought before our organization cannot fail to be of assistance

to us. It is the common belief that anybody can make life insurance examinations. Now, as a matter of fact, that is not so. "Anybody" can't make them. It requires a careful preparation to make a life insurance examination, just as it does to practice medicine. And, furthermore, a man who can practice medicine is not necessarily well prepared to make life insurance examinations. I am glad one member of our organization, Dr. Grant, is pushing the work of better preparation for making medical examinations. Not only in the Jefferson County Medical Society, in the State Society, as lecturer on the making life insurance examinations in the University—a chair he so capably and honorably fills—but also in the National Association, is he calling attention to the fact of the necessity of the education of medical examiners. This is a subject that has been very much neglected; a subject, I may say, almost new to a large majority of men who are engaged in the work which they are supposed to know how to do. When you look into the subject you will be surprised to find how many things there are which ought to be known, and must be known in order to successfully make examinations. Now, the object of this association is to get together men who are interested in this particular work throughout the State of Kentucky and if we corral every man in the State of Kentucky who makes life insurance examinations, we would make the present meeting of the Kentucky State Medical Association, with its magnificent representation look like thirty cents. I have no idea how many men there are in Kentucky, I should say one thousand, who make life insurance examinations. One company has six hundred examiners in the State of Kentucky alone and there are other big companies represented here, and we might say that every doctor in the State of Kentucky should belong to the Association. It is up to us to make them realize the importance of supporting this institution. Now, locally we have had the benefit of attending the meetings of this association, which devotes its entire time to the discussion of life insurance questions, and you have no idea, gentlemen, you who have not had the privilege of attending these meetings, how much one can be profited in the discussion of these questions. I have very little to say, other than what I have said, except I want every one of us who are here, and every one we come in touch with to urge upon our medical fraternity the necessity of paying attention to the work of making life insurance examinations and also the upbuilding of this organization, and see if we cannot get together a large body of representative men interested in this work. It will be for our own good, the good of the companies we represent, and especially good for the people who are interested directly in taking out life insurance. So with this

very brief statement, I think I had better step down and call for the papers which are on the list for discussion.

J. A. Van Arsdall, Nicholasville: I have certainly enjoyed the papers of these gentlemen, which show they have been given careful thought and preparation. I have thought for a long time the question of making medical examinations (life) was one the average practitioner does not pay enough attention to. A great many questions have been brought out by these gentlemen, which are often neglected by the average medical examiner. I examine for a great number of companies, and with a certain degree of pride point to my record as an examiner, and the greatest difficulty I find in making examinations is in those cases where, say an applicant presents himself whom the agent thinks a first-class risk, and to all appearances he is; but when the careful medical examiner goes over his chest, or draws him out as he does by careful questioning, he finds something in the man which he thinks the company should know, and which he is sure will be acted upon unfavorably by the Medical Director. I recall a case recently, which came under my own observation, in which the agent who was an especial friend of mine, brought me an application and to all appearances the applicant was a perfectly healthy individual. But in going over his chest I found a murmur at the base of the heart, so reported to the company and the applicant was rejected. The agent immediately wanted to know the cause. I think this is one of the examiner's trying ordeals, and one of the most difficult situations to handle with tact, because the agent thinks the doctor has treated him unjustly, when he is really clear in his own conscience. In the case referred to, I felt the man was not a first-class risk and that the company should have the information, as I feel the examiner's first duty is to the company he represents. Such cases as this, as Dr. Grant brought out in his paper, require a great deal of tact on the part of the medical examiner.

I feel that I have profited by my attendance here, and I believe I can go home and make a better examiner. While I am proud of my record, I feel in future when I send an examination to the home office, I will have a pen-picture of the applicant which the company can act on more intelligently.

T. N. Willis, Louisville: I have nothing to say except that I heartily approve of the papers. I feel that there is a great deal we probably fail to do in making examinations which possibly we should. I try always in making an examination to be honest with the company and as far as I can to the applicant and agent. I feel that there are three parties to be served; and first that my duty is to the company that honors me with the privilege of making the ex-

amination. I think that we should also be honest with the applicant and treat the agent fairly. Of course, as Dr. Van Arsdall suggested, we frequently have reason to reject a man, and the agent will come back and say that he is surprised to find we have rejected Mr. So-and-so and is satisfied there must be some error; and he would like to know about it etc.; and, as the Doctor says, we sometimes have to use a little tact to get rid of the case in the proper way. I have nothing special to say, except that I heartily approve of what the gentlemen have said and feel that such papers as these are of great benefit to us in our work.

F. M. Gaines, Carrollton: I enjoyed both papers and feel that I can go back home and make more satisfactory examinations—both to myself and to the company.

S. J. Anderson, Midway: I enjoyed the papers very much and would like to hear more of them, but for myself, I have nothing to say.

Jas. D. Sory, Madisonville: I have nothing particular to say, except that in addition to what has already been said, it is my opinion one of the most important things in the making of an examination is time. I don't think any of our work should be done in a hurry, or when we have an appointment and we are anxious to get through. There are too many of us who slap a thing down and expect to fill out the report later. Now, I find in making life insurance examinations that ordinarily the applicants who apply to the doctor to be examined are excited, they are afraid we are going to pump something out of them they don't want us to know. The pulse will be too high, and in that state of excitement they answer questions wrong. If one will take time to talk pleasantly to him, make him feel free and easy with us and gain his confidence in making the examination, he will readily give the necessary information. One of the first things, and one of the most important things in going to see a patient for the first time, is to impress upon him that you are his friend. So it is with the applicant for insurance. If you will make yourself free and easy with him, he will bring out his family history clearly, and give you the facts as to his past much more freely; for by doing this, giving your time and exercising tact—you have gained his confidence and the examination will be much more satisfactory to you, the applicant, and the company you represent.

John G. Cecil, Louisville: I have little to say but what would be a repetition of what has already been said, and I see no necessity for the third repetition. But there are just one or two points in the papers which I would like to impress upon you. From the examinations as sent in to the Home Office, you can pretty nearly size up a man's character, by his handwriting, the arrangement of his answers and the general ap-

pearance of the examination blank as it is filled out. If it is correctly arranged, words spelled correctly, the handwriting legible, you will be forgiven a great many other sins, which may creep in one way or another in the examination. It is certainly very annoying to have answers written that are illegible, and it necessitates delay because naturally the Medical Director cannot pass upon any answer which he does not understand—especially if the answer relates to previous illness, death of father, mother, brother or sister. This has been a cause of annoyance in many a Medical Director's office and has caused a delay until he can correspond with the examiner and find out what he really meant to say. The general appearance of the examination is of more importance than the examiner will ascribe to it. Of course, we do not expect to have copy plate sent in, but we do like to have plain answers, a clear statement and as has just been said, a pen-picture which can be understood.

There is one point bearing more directly upon the examination itself that I wish to refer to, that is, the indefinite answer and answers which cannot be interpreted readily; for instance, with reference to indigestion and rheumatism. These may be practically of no importance at all. They may be of great importance. Indigestion is the forerunner of a great many diseases; it is probably the first indication of tuberculosis.

Rheumatism also may mean little, from very slight rheumatic attacks, to articular rheumatism. I wish to say only a few words in reference to it. We must necessarily attach great importance to its bearing on the heart. It must not be taken that muscular rheumatism has no bearing on a case. Many attacks are of very great importance. Especially is this true in a man aged 45 to 55 or 60 years, getting up toward the limit of insurable age, the very man that wants insurance, the very man that can afford to take it, the kind of a man the company wants to get—a good paying business, and business that will stay with it. Given a history of a man 45 to 60 years, a little overweight possibly 10 or 20 pounds over the average, who gives a history of slight attacks of indigestion, shortness of breath along with it, possibly some history of rheumatism—a history of muscular pains or muscular rheumatism; going into the case further we find a hard pulse, high tension, his urine abundant, a low specific gravity, a trace of albumen, hyaline casts, and along with this there may be a slight tendency to cough, rapid respiration. What is the significance of this to the examiner and the company? It means this: That man has probably been living too high—eating too much, not drinking probably but dissipated as much by the kinds and amount of food he eats. This man is probably a banker, doctor or lawyer. You don't

often find it in the agricultural class, but in the town offices where great responsibility rests. Such a man with this history is the man who is going to be seized with angina pectoris or have a stroke of apoplexy, and consequently not a good risk for he will not live out his expectancy. The company does not want him. This is the kind of man that costs the company more than any other class. It is up to the Medical Examiner to look through a man, through and through, especially in such a case as this giving the full history of slight attacks of rheumatism and indigestion. I want to impress this as being one of the points which need to be gone into.

W. E. Grant, Louisville: I was thinking when Dr. Morton read his paper. I was really glad it had been suggested that I take up what I thought was the most important work of the medical examiner, and he followed right along emphasizing these points. I find we cannot talk about them too much. We have been talking of the work of medical examiners in all of our meetings and I thought we were going to run out of things to talk about, but I find the more we talk about the same subjects, the more good we are doing. We are making good examiners out of those that come here and listen to the papers. Such papers as we are hearing are of more value to the men in the field than any others put in discussions before them.

Dr. Van Arsdall was speaking of a case that reminded me of one recently before me—a man, about 50 years of age that had lapsed his policy and wanted to reinstate same. He came to me for examination and I found a heart murmur. I think the best way to handle these cases is just to say to the man, I discover that you have a little disturbance about the heart. If you don't think he needs treatment tell him so; but say to him that on account of the company's ruling they may not give him just what he may want. If he desires to know what the trouble is, simply say, I find a murmur. Don't magnify it; then, if he goes to his family physician and he makes a careful examination and says, "I discover the same trouble," he does not feel you have done him an injustice. In the case I just spoke of the party was very much disappointed that he could not get his policy, so I agreed to hold my report until he could see his family physician and report to me. His physician made the examination and stated to me that he found the murmur and then I sent in my report. This is when tact helps you; it helps with the agent and with the applicant. Never forget, however, that your first duty is to the company.

Dr. Sory's remarks about excitement are well to be considered. It is a good plan when you meet a man, to meet him in a friendly, genial way, not boisterous, but just like he had walked into your office to consult you professionally.

You soon gain his confidence by your manner, because as he talks his excitement soon disappears and when you are about through with the examination you may count his pulse; if he still seems excited, just talk about something else and count his pulse without calling any special attention to your doing so. Almost every applicant presented will be a little bit excited by the examination, and the examiners must be the judge of the excitement and of the pathological conditions which exist. I think insurance companies are a little strict on high pulse and think risks could be safely accepted when the pulse rate is higher than ordinarily allowed, if we are convinced it is normal.

In regard to Dr. Cecil's remarks about indigestion and rheumatism. I was struck by a suggestion made by a Medical Examiner of prominence—in fact, the Medical Director of Europe for one of the larger companies—in a conversation I had with him as to what he did with certain cases, among them being applicants who had a history of indigestion. He said we want to know if there was any colic with it or a possibility of the appendix being involved; also the symptoms and treatment employed. A good plan in such cases is to say no colic or appendicitis and give the symptoms of the indigestion and the treatment. The Medical Director will then be much more able to judge of the importance of the attack.

David C. Morton, Louisville: The question of tact has been brought up by nearly every one. It has been usually confined to tact between the doctor and the applicant. Now, I don't know what the experience of you gentlemen has been with agents, whether it has been with a number of agents over a considerable period or not. It makes no difference. My experience has been with a number of agents over a very short period of time. They are hard-working fellows, many of them, and men who produce good business, but as we all know, right here in the family, there is a great class of life insurance agents who take up the business for the simple reason they have been utter failures in everything else; then we all know of men who have been fairly successful, who, through misfortunes in their business have been thrown out on the world and take up fire, life and accident insurance. There is another crop of agents who never did do anything well, and I find in my talk with the various managers that I have come in contact with that they are ever ready to sign up a contract with the agent, so driving is the pressure to get new business and consequently have had to associate with men who, in our ordinary walks of life, we would not term better than dead beats. It is galling to me, but I have to recognize them and put forth my best effort and use as much tact and diplomacy with them as possible, because as you come up

through the line of agents you come right up through the line of business-making and business-getting end and that is of far more importance to your company than the medical end, the inspection end or any other end of the business. The company secures its business from these men and consequently we have to use that tact with them. I know when I receive word from the office that a man is to be examined, that he is a man of prominence, that an engagement has already been made for me to make the examination and for me to see him, that this man has a value to the company from the standpoint of the almighty dollar. Here you have need of your tact, influence, etc., because this is the man who pays his premiums and you have to get him.

The agent has seen this man, secured his application and taken his check. Before this, he has been smoking a long stogie, you soon see him with a nice long cigar in his mouth, freshly shaven, shoes shined, etc. He has spent his money in advance. Naturally, if the man is turned down he feels hurt and that an injustice has been done him. Now as examiner, we are required of our company, if we only knew it, to be absolutely confidential with them and are not allowed to tell the agents when or why we have recommended the rejection of a risk. So tact with the agent is a great feature, especially a great feature when the doctor has not control of the medical situation. When he has not the power to make all examinations for his company it is absolutely impossible for him to offend the agent and it is up to him to see that all facts relative to the applicant are given to the company and to hold the good will of both the agent and the applicant for the company.

Tact has to be displayed to a very great extent in that very class of cases Dr. Cecil has spoken of, in the busy man, the successful man approaching middle age and who is on the drive all the time, the man whose time is limited, the kind who will not want to give you ten minutes to make the examination. This man will begin with, "Let's get through because I have an engagement and have to be at such and such a place in about 15 minutes." That very man is a very dangerous man to have on the books of the company, as Dr. Cecil has said. Consequently, it is our duty to be more careful in making his examination and we must use tact to have him give us the necessary time in which to make the examination. It is the class of risks described by Dr. Cecil, in other words, the chronic nephritics, who are the successful business men and men who do have apoplexy and angina pectoria, therefore, it is very necessary for us to get a very complete report on these fellows. I remember once while examining just such a man who was in the various walks of life, who among other things bred race horses. I fin-

ished the history and got his signature (I always make it a point to do this, so I can get my fee, because if he backs down after that, I can send in the report to the company). After securing his signature, I said, "Will you kindly remove that shirt?—one of those stiff-bosomed affairs. He seemed very much surprised and said, "I have been examined a number of times and you are the first fellow who ever asked me to take off my shirt." I explained why I could not complete the examination until he did so, then said, "Mr. So-and-so, would you think of buying a race horse completely covered with a blanket?" He saw the point and it was not ten seconds before that shirt began to come off. He saw for himself that in order that the company might sell a chance on him they wanted to know more about him than it could learn through a stiff-bosomed shirt. He was reasonable. I think tact is more necessary in that class of cases than almost any other.

Another class of risks with which the examiner has to exercise tact is that of the transferred applications and the company should be guarded here by a very rigid examination and careful inspection. The transfer I refer to is when an agent for a company for which you do not examine writes a man in your company either through himself, or through one of your agents. It is a fact that a man gets a better contract from his own company or he would not be working for them, and he should have no good reason for submitting business to the other company. I don't believe a week goes by but what I have an inquiry of this sort from this city or throughout the State, very frequently there is a tirade on the part of the agent as to an injustice having been done, etc. "Spitework," is the most frequently given reason by the agent for switching him from his company to ours. I now have two applications in my pocket submitted by a man who works on a large contract. Dr. Grant recently examined both of them and they were both turned down, it was stated to me that one was on account of habits and the other on family record. In the case of the one in habits, it was claimed an inspection was made in which it developed that the inspection for the insurance company secured his information from the bookkeeper where the applicant was employed, that the bookkeeper had heard some one say he had seen this man at the plant as drunk as a lord. It seems the bookkeeper and this particular individual had had a row and the bookkeeper in order to catch even, said he was out at the plant as drunk as a lord, and the inspector gave this information he had secured from the bookkeeper to the company. Before these two cases are completed I shall make a very thorough investigation of them, especially as to the habits of the last mentioned, which possibly I should not have

done had I not received the information that they had recently been turned down by another company.

Be tactful with the agent first, the applicant next, and keep an eye wide open against any fraud, an eye open to see any crooked work; be honest of opinion, conscientious as to time when one needs time. By doing this, the examiner will do what is called his best work with consistency to the company, agent and applicant.

MINUTES OF KENTUCKY MEDICAL EXAMINERS' ASSOCIATION.

The Fourth Annual meeting of the State Medical Examiners' Association, held in conjunction with the session of the State Medical Society, was called to order on Wednesday, Oct. 20, 1909, at 10 a. m., in the elegant quarters of the Jefferson County Medical Society by the President, Dr. John G. Cecil.

The scientific part of the program consisted of the presidential address on "The Necessity of Medical Examiners' Associations and their Relation to State and National Societies;" and of papers by Dr. David Morton on "The Completion of the Examiner's Report" and by Dr. W. E. Grant, on "The Needs of the Medical Examiner." These papers were discussed by Drs. H. Van Arsdale, S. J. Anderson, W. F. Blackford and T. W. Willis, and in closing by the essayists. Papers by Dr. J. W. Guest on "Renal Colic," and by Dr. E. S. Allen on "The Significance of Cardiac Arrhythmia in Insurance Work" were read by title.

The following motions were introduced and carried:

That the next session of the Association should be held in Lexington, in conjunction with the next meeting of the Kentucky State Medical Association. That the editor of the JOURNAL of the State Medical Society be requested to open a department in the JOURNAL devoted to life insurance topics. That in the future the regular dues of the State Medical Society be entirely suspended.

Under the election of officers, Dr. Ed M. Wiley, of Lexington, was chosen President. Dr. H. Van Arsdale, of Nicholasville, was elected First Vice-President. Dr. S. J. Anderson, of Midway, Second Vice-President, and Dr. B. J. O'Connor, of Louisville, Secretary.

B. J. O'CONNOR, Secretary.

ECTOPIC GESTATION.*

BY JOHN BARNHILL, OWENSBORO.

In presenting this paper to you on Ectopic Gestation, I offer no apology except that your secretary requested me to write a paper and selected this for the subject. After telling him that I knew but little about it, he suggested that I could learn from the discussion of the paper by you gentlemen all about it, which I much prefer to clinical observation in this disease.

We find many of the earliest writers mentioning this form of fetation as a curiosity, but offering no explanation as to its cause. Isreal Spach, in his gynecological work, published in 1597, figures a lithopedion drawn *in situ* upon a full length cut of a woman with the abdomen laid open.

An important discussion was called forth in 1669, by the case of Benedict Vassal, a surgeon in Italy.

Even so early as 1741, Bianchi constructed an elaborate classification of the forms of ectopic gestation, that was simplified by Boehmer in 1752, who described three forms, gestatia tubaria, gestatia ovarica and gestatio abdominalis.

A period of 49 years intervened in which this classification remained unchanged. In 1801 Schmidt described the intestinal form of ectopic gestation, and with this addition, Boehmer's classification must practically be accepted, even at the present day.

With the exception of a primary abdominal form, for the present, however, only two primary forms of ectopic gestation can positively be accepted, tubal and ovarian. Practically tubal pregnancy is the only primary form found.

From these references to the earlier literature it will be found that extra uterine gestation was clearly recognized, its symptoms described and the theories advanced—those that are accepted by many writers of the present day.

As to the cause of this form of pregnancy, no satisfactory conclusions have been reached. Among many theories none have been demonstrated. It has not yet been determined at what point in the female genital tract normal impregnation of the ovum takes place, and until this question is settled the primary question, whether extra uterine fetation is an abnormal ectopic impregnation or is simply a detained impregnated ovum, must remain unanswered. Many claim that the seat of coalescence of the male and female elements is normally in the Fallopian tube. If this be admitted to be true we can readily

see how a variety of causes might operate to detain the ovum in the tube, where it may continue to develop, extra uterine.

Chief among the causes ascribed a few years ago, was the loss of the tubal ciliated epithelium which would conspire to prevent the ovum from being carried on down into the uterus; other causes cited have been flexions of the tube, constriction from inflammatory changes, and polypi in the tube, closing its lumen like a valve.

All the symptoms of normal pregnancy may be present. If an examination be made before rupture, the Fallopian tube of one side will be found enlarged, and if far advanced the uterus will be forced from its position in the median line by the growth of the tumor. If the pregnancy is advanced to the third or fourth month, a circumscribed tumor, well defined as an area of dullness on the anterior abdominal wall, may be outlined by percussion.

The pregnancy usually occurs in a multipara some years after the birth of the last child. The symptoms of rupture are very characteristic and definite, and leave little doubt in diagnosis. If you will pardon me I will give you the history of a case that recently came under my observation.

I was called August 12, 7 a. m., to see Mrs. ———, age 24 years, who has one child, four years old. Previous health good, stout, robust; in fact, the picture of health. Found her at 7:45 a. m., with the pulse imperceptible, temperature 95, cold all over, profuse cold and clammy perspiration, intense pain over right ovary, described by her as like a knife cutting, respiration quick and jerky and patient begging for fresh air. Vertigo followed in a few minutes by syncope. Patient had gotten up that morning and done her usual household work and was assisting her husband to carry a can of water when the attack came on. Menses seven weeks before.

On the 13th, had Dr. Rodman to see patient with me. No change in condition. On the 14th, 48 hours after the beginning of the attack, patient showed signs of reaction. Temperature 97, pulse 140, resting some easier, but whole abdominal wall greatly distended and tender. On the 15th, Dr. Stirman was called and it was decided to move the patient to the hospital and operate on the 16th. On the 16th, Drs. Stirman, Rodman, McCormack and myself being present, it was agreed that patient could not hold up under operation and decided that we would follow the Biblical instruction to "Watch and Pray." Dr. Rodman and myself to do the watching and Drs. Stirman and McCormack to do the praying. From that time on, re-

*Read before the Daviess County Medical Society, Sept. 21st, 1909.

covery was slow but uninterrupted, but whether this was due to the watching or praying, I leave for you to judge.

On August 15th, the day patient entered hospital, temperature was 101 4-5; pulse 120, which continued with but slight variation up to August 29th, when it began to decline. Patient was allowed to return home August 31. As to treatment of patient from August 12th to 16th, Morphia Sulphate and Strychnia, hypodermically was all patient had. August 16th, minute doses of calomel followed with Tr. Iron and strychnia, and morphia when indicated.

As to treatments in ectopic gestation before rupture, if diagnosis is made there is but one and that is to operate. If the ectopic fetus be delivered alive, it is often deformed and puny and rarely lives but a few days. For this reason its life should be but little regarded in the treatment of ectopic gestation. After rupture contrary to the natural inference, cases are not usually submitted to operation at the time of rupture, as by the time the surgeon is called the patient is either recovering or is dead from extensive hemorrhage. If the fetus dies at time of rupture the disposal which nature makes of the fetus, if the mother survives, is remarkable. The dead fetus, lying free in the abdominal cavity may be completely absorbed up to the second month; after this period it either undergoes mummification, calcification, or is converted into adipocere, or decomposes. Cases are reported in which such bodies have stayed for ten and fifteen years, and in one instance for fifty-four years, in the pelvis without giving rise to serious trouble.

Therefore, after rupture where the fetus is dead would not advise operation as long as mother continued in good health, but on the first indication of constitutional disturbance, especially if febrile operation should be resorted to.

Resemblance Between Sleeping Sickness and Progressive Paralysis.—Spielmeyer presents evidence to show the close analogy between the pathologic anatomy of sleeping sickness and progressive paralysis. This and other points of resemblance are explained by the comparative research on trypanosome and spirochaete affections. Schaudinn was able to discover forms showing transitions between trypanosomes and spirochaetes, demonstrating the family connection between them. Pathologic anatomy and clinical experience are confirming these results of purely biologic research, and the reverse is also true, that biologic research is throwing new light on the clinic and on pathology.—Munehener medizinische Wochenschrift.

DIURETICS.*

By S. P. ALDERSON, RUSSELLVILLE.

It has been said, "Brevity is the soul of wit," and this quotation never fitted more aptly, than in this feeble effort of an amateur writer. There will be no wit, then brevity should be the saving element in a paper to be read before a distinguished body of medical men like this, by a tyro upon whose diploma the ink is scarcely dry and who has not yet recovered from the shocks following three days' bout with the Kentucky State Board of Examiners. And let me say, *en passant*, that if any of you wish a fine illustration of a prompt and effective diuretic, let him go before this board and we will guarantee free diuresis.

As the subject indicates, I am expected to give a dissertation upon diuretics and await the perforating criticism of older and experienced practitioners.

Diuretics, derived from the Greek, *dia*, through; *ourne*, urine, are medicines which tend directly to increase the flow of secretion from the kidneys. According to this the number of medicines which, in various conditions of the body, are adapted to increase the flow, would be more restricted than in practice is found convenient, for in numerous diseased conditions, the deficiency depends, not upon defect in the enunctory appropriated to that secretion, but to derangement of the others which interfere more or less with the proper action of the kidneys. Or to go further, these organs may be doing their duty, but the discharge externally may be prevented by some obstacle in the passage which convey the secretion. As for example, an obstruction of the urethra may exist, such as a thickening of their coats, or a spasm of muscles, or what is more frequent, a calculus may become entangled in the canal. This, however, is usually unilateral and that of the opposite side assumes the burden of both and effectually purifies the blood.

The instance of interference on the part of other organs to prevent the normal secretion or discharge of urine are also numerous. Physical agencies may interfere with the secretion of discharge, or with both at the same time. Everything which mechanically compresses the urethras will prevent the escape of urine into the proper receptacle, the bladder. This obstruction will gradually distend the urethra and pelvis of kidney, and finally unless promptly relieved, cause atrophy of the organs by pressure upon glandular structure, thus producing retention and afterwards suppression. Tumors

*Read before the Kentucky State Medical Association, Louisville, October 19-21, 1909.

of the ovaries, of the mesentery and other abdominal organs may produce such results.

Freedom of circulation of blood is absolutely necessary for the proper performance of functions in every gland and especially so for the kidneys. The extreme vascularity and intimate connection between all the abdominal organs thereby displaying beautifully the wisdom of the author of their mechanism demand free play and will not brook any interference with the circulation of the blood in one as it will effect and curtail, to a greater or lesser degree, the freedom and amount of discharge in the other. For instance, if the intestines become over-distended by feces, they will impede to some extent the action of the kidneys, partly mechanically, partly by lessening the free circulation of the portal blood through them, and partly by preventing absorption of fluid contents of the bowel. Still more striking examples of deliterious and destructive operations on the kidneys are congestions and chronic induration of liver and spleen. Again, obstructive valvular diseases of the heart cause a marked decrease in urinary secretion because of large venous connection with abdominal circulation. Anything, which independent of mechanical obstruction tends to divert blood from the kidneys is analogous in its action. You are all familiar with the effects of active exercise, when it produces copious perspiration, in lessening the secretion of urine, and how heat produces the same immediate and remote results, the flow of urine being copious in winter and scanty in summer. All febrile conditions alike have deliterious alterations upon the blood, in that it is more viscid and loaded with debris of morbidity, thus diminishing normal secretion from all glandular structures.

Now, in all of these categories of diminished discharge of urine, diuretics are scarcely the appropriate remedies. While flushing the kidneys with diluent drinks might dislodge a calculus, antispasmodics are far more logical. If from congestion of the liver, mercury or taraxacum will prove valuable. Congestion of the spleen from malaria reacts upon the kidneys and quinine or iodine relieves. A purge will produce diuresis by unloading a congested and compressed intestinal tract. These are some of the numerous means by which discharge of urine may be increased, but they can not strictly be called diuretics. We must have medicines which by direct action augment the secretion and restriction to these. A careful consideration will reduce to two important classes recognized by their special action as in cathartics. One may be called hydrogogue and the other depurative, the former evac-

uating little else than water, the latter several glandular secretions. The first are stimulating or acrid and by irritating the tissues become absorbed and afterwards eliminated by the glands, but chiefly by the kidneys. Among these are squills, juniper berries, copaiba, savin, buchu, garlic, cantharides and oil of turpentine. The normal function of the kidneys is quickened by all of these drugs and the blood, in its circulation through them, gives up most of its largest constituent, water. On this account these remedies are most useful in dropsical affections where they act promptly and to the doctor's relief, as well as to his patient. The water is literally pumped from the serous cavities through the veins by transudation. We can, too, be more successful in this by combining with the above renal hydrogogue a depurative diuretic as acetate or bitartrate of potassium. In various diseased conditions we can thus make salines conserve our interests by large dilutions when they being absorbed, become active diuretics.

In this rambling and incomplete paper you may perhaps see some redeeming feature, and we close by naming a few of the great number of agents ordinarily called diuretics. To head the list, comes pure water, then sugar, buttermilk, fruits; apples, pears, grapes and the delicious water-melon. For who has not heard of grandmother's remedy when the new born babe's kidneys do not perform, and grandpa complains that he has not the requisite number of water-melon seeds to plant. Nature culls, too, from the vegetable kingdom in carrots, parsnips and asparagus. Then comes medicinal agents, as poppy, hemp, almonds, citric, tartaric, boric and benzoic acids, alkalines, volatile oils, etc. Some of the most frequently used are uva ursae, buchu, pipsissewa, urotropin and diuretin.

Serotherapy and Its Dangers.—Scheidemandel discusses the condition known as anaphylaxis, allergy or hypersusceptibility, and warns that the experiences to date show the possible peril with serotherapy. It should be restricted to cases in which it is absolutely necessary, and the patient's susceptibility should be determined, with minute doses first. Before giving the serum, inquiry should be made as to whether the patient has ever used it before. Scheidemandel thinks that it is possible that curative serums derived from monkeys may be better suited for clinical use than horse serum. He reports a case of severe collapse after a third injection of anti-streptococcus serum given on account of a febrile osteomyelitis of the pelvis. These anaphylactic phenomena have been observed as late as three years after the first injection.—Munchner Medizinische Wochenschrift.

COUNTY SOCIETY REPORTS.

Allen.—The Allen County Medical Society met January 10, 1910. Election of the following officers taking place: A. J. Dixon, President; H. M. Meredith, Secretary-Treasurer; W. H. Harris, Vice President; W. A. Callis, Delegate.

The discussion of the new schedule of fees was entered into by all present and all were reported as being highly pleased and no one guilty of charging less than the agreed prices.

One new member taken into membership, W. A. Callis. We retain all of our 1909 membership except those who have moved away, or have died.

We have only one eligible non-member in the county.

While our meetings have not been so regular, or well attended as should have been during the year 1909, yet our meetings have accomplished more than any year of its history.

The prices on obstetrics, emergency surgery and mileage have all been raised to a higher rate and have been supported by every member.

The next meeting of the society will be held February 5th.

H. M. MEREDITH, Secretary.

Adair.—The Adair County Medical Society met at Dr. Cartwright's office on Thursday, January 13th, 1910, with the following members present, William Blair, Vice President; U. L. Taylor, Secretary; W. F. Cartwright, W. R. Grissom and S. A. Taylor. The reading of the minutes was dispensed with.

William Blair opened the meeting with a paper on the Pneumonia of Malaria. I sent the paper to the Journal for publication. It is a very thoughtful paper, and one which required a good deal of labor to prepare.

W. F. Cartwright then gave a good talk on the use of antitoxin in diphtheria, which was endorsed and discussed by all present. The Doctor has lately had a good deal of experience in the use of antitoxin, and his experience has been all that could be desired. Several of the other members had had experience and they all bore testimony to the good effects of the remedy. None of them had lost a case under its use.

W. L. Taylor gave an address on The Health of the County during the last year, but as it is embraced in his report to the State Board, I will not send it in these proceedings.

We who were present had a very interesting and profitable discussion. The thing that bothers me the most is the indifference of the majority of the members in the society. Dr. Waggener was sick that day and could not attend.

Of course, sickness is a valid excuse, but most excuses are not valid.

I have an abiding hope that when Dr. McCormack comes to us in the near future he can arouse some enthusiasm among our latent members. He has promised to come, and when he does come, he will find a very large audience to meet him and to greet him. The common people, the great common people, are becoming interested in the subject of public health, and when a man like Dr. McCormack comes here to talk on that subject, the people will come to hear him. You cannot expect to get the annual dues from our members until May. The more you talk to them about their dues, the more they don't pay. All the county members will pay then, except about three, and they never attend the society, and had as soon be out of the ranks as in. I will do my best to keep life in the society till that time comes.

I forgot in the proper place to give an account of the annual election. E. T. Sallee was re-elected president. William Blair was elected vice-president, U. L. Taylor, secretary and delegate to the State association; W. F. Cartwright, W. R. Grissom and U. L. Taylor were elected committee on program.

U. L. TAYLOR, Secretary.

Caldwell.—The Caldwell Medical Society convened at Princeton on Tuesday, Jan. 11, 1910, and was called to order by the vice-president, L. O. Young, at 1:30 p. m. The Secretary made a report of the last meeting which was adopted. The following physicians were in attendance: L. O. Young, L. J. Spiekard, W. L. Cash and R. W. Ogilvie.

On account of the absence of some of those who were to participate, the program was not rendered as announced. **R. W. Ogilvie** being present, disposed of the subject of Measles. After thoroughly discussing this subject and arranging a program for the next meeting, the society adjourned to meet again on the second Tuesday in February.

R. W. OGILVIE, Secretary.

Christian.—The regular meeting of the Christian County Medical Society was held at Hopkinsville, January 18th. We had a very successful meeting, with Vice-President Young in the chair. Those present: Drs. Young, Beazley, Bell, Holloway, Keith, Anderson, Lackey, Stites, Harned and Rice, White, Peyton and Lacey.

H. C. Beazley read a paper on "Chronic Rhinitis."

F. M. Stites read one on "Criminal Abortion." Both papers showed careful preparation, and were quite freely discussed.

Owing to the very bad weather there were

only thirteen present. We hope for better attendance next time.

J. H. RICE, Secretary.

Clark.—The Clark County Medical Society met in regular monthly session Saturday morning, Jan. 8th, at 10:30, in the McEldowney Building. The following members were present: I. A. Shirley, J. N. Rankin, W. A. Bush, E. R. Bush, M. S. Browne, I. H. Browne, C. I. Stephenson, D. H. McKinley and E. R. Cole. Visitors A. H. Barkley, Lexington, and J. E. Wells, Cynthiaana.

The meeting was called to order by President Rankin, in the chair. Minutes of last meeting were read and approved. There being no regular program for this meeting, **A. H. Barkley** and **J. E. Wells** were asked to read a paper, which they kindly consented to do.

A. H. Barkley read an excellent paper on "Gall Stones," that was well listened to by all present, though not discussed at length, owing to its dealing almost exclusively with the surgical side of the question.

J. E. Wells read a paper on "Our Duty to Ourselves, Our Patients and Our Fellow Practitioners," that was instructive and heartily enjoyed and did credit to its author. After the reading of these papers, the society tendered a rising vote of thanks to both essayists for their efforts in our interest.

This being the annual meeting the society proceeded with its regular business of electing officers and appointing delegates for the ensuing year. The following were elected to serve for the year 1910:

D. H. McKinley, Pres.; E. R. Bush, Vice; E. R. Cole, Secretary and Treasurer; E. R. Bush was also elected one of the board of censors.

Our society has not been as active during the past year as it should have been, but the present has opened much more promising, and we hope for some real live interest during 1910.

The society adjourned to meet the first Saturday in February, and repaired to the Brown-Proctoria Hotel for a social dining.

E. R. COLE, Secretary.

Calloway.—Calloway County Medical Society held her annual election, Dec. 31, with the following results: President, E. D. Covington, Woodesboro; Vice-President, P. A. Hart, Murray; Secretary-Treasurer, W. H. Graves, Murray; Assistant Secretary, A. V. McRee, Murray.

We do Post Graduate work this year with perhaps by-monthly meetings.

W. H. GRAVES, Secretary.

Cumberland.—The Cumberland County Medical Society met on its regular day in the office of W. C. & Oscar Keen, with the largest attendance for several months. The house was

called to order by the President, H. L. Cartwright, and after the routine work was dispensed with, Drs. Simpson, Richardson and Keen reported several very interesting cases among which was a case of an injury to the eye of a man who was shooting a roman candle during Christmas, resulting in the complete loss of vision.

We are going to put the best foot foremost and try to make this the banner year of our society. We have fourteen doctors in the county, nine of which are members of the County Society, and all expressed themselves as being willing and anxious to do anything in their power to get the five outsiders to join, or the four, I should have said, for Dr. T. T. Baker of Amandaville, is an old man (I suppose the oldest practitioner in this part of the state) and an honorary member.

Please find enclosed check for our annual dues, together with a correct list of the members and non-members of our society.

OSCAR KEEN, Secretary.

Franklin.—The Franklin County Medical Society had a small meeting February 7, 1910, in answer to call for dues to State Secretary, for 1910. No papers or clinical cases were read.

J. W. Wilson reporting rupture of cornea from the explosion of gun. No evidence of foreign substance causing it.

For next meeting he will prepare paper on Eye, throat and nose from standpoint of general practitioner.

O. B. Demaree, paper on Diphtheria from a Domiciliary and Clinical Viewpoint.

The following have paid their dues: M. C. Darnell, J. S. Coleman, C. K. Wallace, A. M. Jackson, J. W. Wilson, N. M. Garrett.

U. V. WILLIAMS, Secretary.

Fleming.—There are a few of the members of the profession in the Fleming County Medical Society who, I think want to be members, so I thought best to give them a few days more to send in their dues.

I will send the list of members in a few days, and in this letter will give you the new officers, so if you should need that part you will have it.

President, W. W. Dye, Oak Woods; Vice, A. M. Wallingford, Jr., Mt. Carmel; Secretary and Treasurer, John A. Minish, Poplar Plains; Delegate, J. C. S. Brice, Flemingsburg; Alternate, T. Ribelin, Elizaville. We elected three members of the board of censors, as we had met so irregularly the past year or two. They are: T. B. Vice, J. C. S. Brice and J. B. O'Bannon.

The most of the members have promised to be more regular in their attendance this year, and I feel as if we were going to do some good work

this year; I hope so at least. I shall see that the Secretary does his duty at least.

Fraternally,
JOHN A. MINISH, Secretary.

Grayson.—The Grayson County Medical Society met at Leitchfield, in G. W. Armes' office, Thursday, Feb. 3, 1910. House was called to order by the Vice-President, H. C. Duvall, our President, J. S. Stone, being absent, owing to age and bad health. Also the latter sent in a letter of resignation, claiming that his age (71) and declining health would not permit him to serve us any longer; however, we all regret very much to give him up, and G. W. Armes gave a short talk expressing our regrets, and suggesting that we send Dr. Stone a nice little present as a token of our appreciation of the work that he has done for us; the suggestion was heartily agreed to by all and it was decided that we would get him a nice cane.

Next before the house was the election of officers. H. C. Duvall was nominated as President, and elected by a unanimous vote, after which he gave us a short talk, thanking us for the honor bestowed. W. S. Clark of Leitchfield was elected Vice-President; C. L. Sherman, of Millwood was elected Secretary and Treasurer; J. S. Stone, of Caneyville, Delegate; G. W. Armes, Alternate; E. B. Dewees, of Caneyville, J. B. Hampton, of Millerstown, and G. W. Duvall, H. C. Duvall, E. B. Dewees; G. W. Armes, S. H. Armes, John W. Conklin, J. B. Hampton, J. H. Botts, W. S. Clark, W. A. Conklin, M. Phelps and C. L. Sherman.

The subject, "Shall we unite as a body and bind ourselves to purchase a certain amount of goods from some reliable house, provided they will give us a wholesale price," was brought before the house and discussed pro and con, with quite a little degree of interest. Then the vote was taken and carried in favor of the motion. The Secretary was appointed to take the matter in hand and correspond with various houses in regard to the matter and report at next meeting.

G. W. Duvall made a short talk in which he advocated a post-graduate course in our society; the subject found several objectors, claiming that we did not have the time, and as a consequence, the subject was not put to a vote.

John W. Conklin was appointed to write a paper on Nasal Catarrh; J. B. Hampton on how he manages his normal and abnormal cases of labor. G. W. Duvall on Septicemia. All of which are to be read at next meeting.

House adjourned to meet again March 3rd, at 10 a. m., in Dr. Armes' office, Leitchfield.

C. L. SHERMAN, Secretary.

Henderson—The Henderson County Medical

Society met at the Y. M. C. A., and began program at 8 p. m., Dr. Busby presiding.

There were present at the meeting Drs. Ligon, Wilson, Mosley, Neel, Griffin, Dixon, Quinn Floyd, Letcher, Busby, Hancock and Rash, of Owensboro, and by invitation, Rev. James Vernon. (13).

Dr. Rash read a paper, subject, "The Early Diagnosis of Tuberculosis." The subject was treated in a masterly way. The importance of early diagnosis was emphasized as all important. The physical signs and history with fever are suggestive, but not reliable for diagnosis, in the useful stage for treatment. The use of tuberculin by hypodermic method, by vaccination on skin and mucous membrane, were brought in for important service. The essayist exhibited specimens of agents and explained method of use in his hands and results.

Dr. Neel read a splendid paper on "Treatment of Tuberculosis." He gave most of his time to Hospital and Climatic treatment. He emphasized Medical Supervision, sunlight, outdoor air, good food and rest. The essayist would discourage the sending of patients of limited financial means or of decided domestic tastes to any far away place for cure. The disadvantages in such cases more than offset the benefit over home cure properly directed.

Dr. Dixon reviewed the methods given by Dr. Rash. He objects to the hypodermic use of Tuberculin as fraught with danger he prefers vaccination as he does the operation in small-pox. The early diagnosis is all important. In physical examination the chest should be bared; when bacilli can be demonstrated with the microscope a cure cannot be expected, but arrest and prolongation of life is possible. Nutrition and air and rest for treatment. The temperature record for several days should be made in all suspected cases.

Dr. Floyd.—Great caution should be exercised in using tuberculin in the eye for diagnostic purposes. He would emphasize selection in those cases who were sent from home for treatment. Nutrition and rest for the nervous system are often interfered with by separation from home and friends. Nostalgia thus induced would preclude any benefit offered by better climate. He thinks that physical examination with history of previous health of the patient, his weight, etc., should enter largely into estimate of early tuberculosis.

D. O. Hancock.—"Take care of the consumptive at the right time, in the right place and in the right way until he is well, and not at the wrong time, in the wrong place and in the wrong way until he is dead." These papers and the discussion of them give us many important facts. The two subjects elaborated,

comprise the larger part of the tuberculosis. What he said related chiefly to the apathy of the public and physicians as well on this subject. Four years of Civil War killed 200,000 men. Past four years record 600,000 deaths in the United States from consumption and with but little alarm. A large life insurance company pays for a death from consumption every thirty minutes. In the year 1909 there were in the United States 160,000 deaths from consumption, as compared with 100,000 from yellow fever in 115 years. One-third of all deaths between 20 and 45 years of age are from consumption, and yet there is comparatively little alarm. Rev. James Vernon stated that in spending his vacation in the West last summer he saw a great many consumptives gone thither for health. They were often fleeced unmercifully of their money, and suffered for attention while living, and dying they were often neglected or buried without civil rights. He was glad a reaction was coming about on indiscriminately sending consumptives from home for cure and care. He was impressed with the emphasis now placed on any diagnosis and pleased with reports of cures. Dr. Rash, in closing, prefers vaccination method but uses hypodermic method for verifying and thinks it valuable and necessary. We do not discard Antitoxin in Diphtheria because occasionally there is a bad effect. After reaction the patient is frequently better than before treatment.

The minutes of last meeting were read and approved.

Bills were presented and allowed. Report of W. A. Poole, Secretary and Treasurer for 1908-1909 was read and approved and ordered filed.

Receipt of \$11.15 balance from Dr. Poole was acknowledged. A number of those present paid dues for current year. The presence of Mr. Vernon was noted with pleasure. By motion of Dr. Dixon he was invited to be with us again and as often as he may find his convenience and pleasure allows. Members present expressed pleasure in having with us Dr. O. W. Rash, one of the essayists of the evening.

D. O. HANCOCK, Secretary.

Henderson.—The Henderson County Medical Society, met at the Y. M. C. A., February 10, and was called to order at 8 p. m., by E. L. Busby, President.

The minutes of the meeting held Dec. 13, 1909, were read and approved. There were present at the meeting, Drs. Dixon, Busby, Floyd, Ligon, Quinn, Moseley, Graham, Hancock and Griffin. (Nine.)

The Secretary read a communication from Secretary Cushing, of the Y. M. C. A., acknowledging receipt of \$8.00 from the Medical Society, for courtesies received, and assuring the society of welcome to the accommodations of the

Y. M. C. A. for their meetings. The same was received with pleasure and filed.

The Henderson Journal donated its bill, \$9.80 for resolutions of L. C. Royster.

Committee on Banquet reported all bills paid and a deficit of \$10.00 due Dr. Forwood, who financed the banquet, the same was ordered paid out of the general fund.

The Committee on Program presented an outline of work for the year 1910, the same is approved, and is enclosed herewith.

Arch Dixon read a paper on Pellagra. This paper presented the society with knowledge of his disease to date, and was well received.

Dr. Armstrong read a paper on Lacerated Perineum. The essayist gave most of his time to recent lacerations. Their prevention and treatment. It was a valuable statement of facts on this subject. These papers were discussed by Drs. Floyd, Moseley and Ligon, and closed by the essayist.

D. O. HANCOCK, Secretary.

Hopkins.—The Hopkins County Medical Society met in regular session at 10 o'clock in the Y. M. C. A. Building at Madisonville. Meeting was called to order by the President.

There being no papers to read the time was taken up in a general discussion of shock following injuries, especially that of scalds and burns. Two cases were described, both receiving the scald at the same time; with one the shock was immediate, in the other it was delayed for six hours.

There being no regular time for election of officers a business meeting was held and the following officers were elected: President, A. L. Thompson; Vice-President, J. D. Sory; Secretary-Treasurer, A. O. Sisk; Delegate, A. W. Davis; Alternate, A. O. Sisk; Censor, A. W. Davis.

The proposed bill, which provides for an act to regulate the "sale of opium or its alkaloidal salts or their derivatives, or any admixture thereto" as prepared by the Legislative Committee of the Kentucky Pharmaceutical Association, was read and on motion it was unanimously approved.

The Secretary-Treasurer's report shows an increase over 1908.

The following members were present: A. W. Davis, J. D. Sory, J. T. Townes, C. N. Ferguson, B. P. Earle, A. L. Thompson, L. M. Moody, Robert Sory, C. E. O'Bryan, J. O. Strother, W. P. Ross, W. T. Sutton.

A. O. SISK, Secretary.

Knox.—A joint meeting of the Knox County Medical Society and the Civic League was held in the county court room last Monday and was by far the best meeting in years. Court adjourned for these two bodies and remained

with them during the program, which was very fine.

Dr. Tye with splendid dignity, called the meeting to order, Dr. Logan acting as secretary. Albright, first on program, read a paper on Auto-intoxication, showing this to be the foundation of nearly all disease, and pleading with people to beware of over-taxing the alimentary canal, stomach, etc.

J. S. Lock read a paper on Typhoid Fever, which in its line was equally as helpful as the preceding paper.

Leslie Logan's paper on Tuberculosis appealed strongly to the reason. **W. B. Dozier** and **Parker** emphasized and brought out good points on the papers just read. Judge Stamper made a very conservative speech, following it, and after Judge Stamper, Messrs. R. W. Cole, M. G. Hignite and S. A. Smith made practical talks, all advocating the establishment of a sanitarium at this point.

Last but not least came talks by members of the Civic League. Mrs. M. E. Faulkner, in her pleasant manner, pledged the support of the league, and also stated that in a substantial way the league would try to furnish a room in the proposed sanitarium. Mrs. John Hughes cited to cases all around, that was convincing logic, why we should need a sanitarium. Mrs. Matthews refused to speak, saying she came to sit at the feet of learning to hear, not to be heard, doing away with the old adage that women give the men no chance to talk.

Judge Stamper invited the medical society, the league and supporters of the proposed sanitarium to meet with the magistrates next April, at which time the Civic League will have an open meeting, and a good program, free.

LESLIE LOGAN, Secretary.

Larue.—The Larue County Medical Society met the third Thursday in December, and elected officers for the year. E. J. Graham was elected President; Leigh Maupin, Vice-President and W. E. Rodman, Secretary.

A. B. Muster reported two cases of Nephritis after scarletina, which were very generally discussed by the society and the Doctor was very generally complimented for his successful management of the cases.

W. E. RODMAN, Secretary.

Marshall.—The Marshall County Medical Society met today in the office of Stilley & Jones in Benton, with the following members present: C. E. Clayton, S. Keffer, C. E. Howard, L. L. Washburn, B. T. Hall, V. A. Stilley, T. C. Coleman, W. T. Little, A. J. Bean.

The society was called to order by the President, W. T. Little, and immediately went into the election of officers for 1910.

L. L. Washburn was elected President; C. E.

Howard was elected Vice-President. A. J. Bean was re-elected Secretary. A. J. Bean was elected Delegate and V. A. Stilley, Alternate. Board of Censors, T. C. Coleman, 3 years; E. G. Thomas, 2 years; J. M. Woodall, 1 year.

The regular program was then taken up.

V. A. Stilley read a paper on Diphtheria. It was an excellent paper and brought out every phase of discussion. This paper was discussed by every member present.

The next subject was The Marshall County Medical Association, by **W. T. Little**, retiring President.

W. T. Little gave us a practical talk on Society Organization and Maintenance, and was well enjoyed by all present.

Smithfield Keffer read a paper, "Taet in the Practice." This paper was short, but was to the point and gave food for thought along the business and financial side of the Practice of Medicine.

The society adjourned to meet March 9th, 1910.

A. J. BEAN, Secretary.

Ohio.—The Ohio County Medical Society met here December 1st., and elected the following officers for the year, 1910: J. O. McKinney, President; H. B. Riley, Vice-President; Oscar Allen, Secretary and Treasurer; S. J. Wedding, Delegate; J. W. Taylor, Censor. The society then adjourned to meet again on the first Wednesday in April.

The Post Graduate class continues to meet at Beaver Dam at 2 p. m., every Monday.

J. W. TAYLOR, Secretary.

Pendleton.—The Pendleton County Medical Society met in Falmouth, Wednesday, Jan. 12, 1910 with the following members present: J. H. Barbour, W. H. Yelton, John E. Wilson, J. Edwin Wilson, H. C. Clark, W. A. McKenney, K. B. Woolery, O. W. Brown, J. F. Daugherty, T. C. Nichols, C. H. Kendall, P. N. Blackerby, twelve in all. The society was called to order by Retiring President H. C. Clark, who in a few well-chosen remarks, introduced our new President, **T. C. Nichols**, who thanked the society for the honor conferred on him. After roll call and the usual report of clinical cases, we proceeded to the program for the day, which was a symposium on Tuberculosis.

O. W. Brown read a paper on the Etiology of Tuberculosis, which was very interesting. J. F. Daugherty ably discussed the subject.

K. B. Woolery's subject was Symptomatology. **C. H. Kendall**, and other members present thoroughly discussed the paper.

John E. Wilson, had for his subject, Prognosis and Treatment.

H. C. Clark discussed the paper very thoroughly.

P. N. Blackerby's subject, Diagnosis of Tuberculosis.

W. H. Yelton opened the discussion.

The following resolution was made:

We, the committee appointed by the chairman of the Pendleton County Medical Society to draught resolutions in regard to fitting spectacles.

Resolved, That the correct fitting of glasses is an exact science, that requires a finished education in mathematics, as well as a thorough understanding of the Anatomy and Physiology of the eye. We wish to condemn the custom of our people going to ignorant foreigners, that advertise in our county papers, to cure any disease of the eye with glasses. We wish to condemn these men as frauds, and if not amenable to law, are obtaining your money under false pretenses.

W. A. McKENNEY,
C. H. KENDALL,
O. W. BROWN.

I, as secretary, was asked to forward to you a copy of the resolution, and ask you if there was any law to prevent this custom. If not, can't we have some law passed to prevent such men from preying on the public? I spoke to our Representative Crecilus, and he said he would do anything he could, and suggested that I write you. I know Senator Chipman, will do anything we want him to.

We have had this resolution printed in our county papers, and we would like to hear from you in regard to the matter.

W. A. McKENNEY, Secretary.

Pulaski.—The Pulaski County Medical Society at its December meeting, elected for the year 1910, the following officers:

S. F. Parker, President; G. E. Jasper, Vice-President; Carl Norfleet, Secretary and Treasurer; B. G. Allen, Censor; I. S. Warren, Delegate.

On January 13, 1910, the Pulaski County Medical Society held an open session at the court house, at Somerset. The following subjects were rendered:

A. W. Cain, "What is the Doctor Doing?"

B. G. Allen, "Early Diagnosis and Prophylaxis of Tuberculosis."

J. M. Owen, "What is Being Done for the Cure of Tuberculosis?"

CARL NORFLEET, Secretary.

Taylor.—The weather having been so extremely bad on the regular meeting days for December and January, no meeting was held on those days, so a meeting of the Taylor County Medical Society was called for January 20, for the election of officers and the payment of annual dues.

There were present Drs. Buchanan, Black,

Reesor, Gowdy, Hiestand, Elrod, Sanders and Atkinson. All those present paid dues for the year 1910.

Report of cases was called for.

J. L. Atkinson exhibited a specimen of *Moluscum Fibrosum* large as a walnut removed from upper part of right female labium major.

J. L. Atkinson reported, on Jan. 10, attended Mrs. R., in her ninth confinement. Labor normal. Just before head of child came against perineum, the woman had a very hard pain and the child's head gave a sudden slip that was audible. When the child was born the right frontal bone was depressed so that the natural convexity became a concavity. The infant did not cry, but breathed fairly well and made a constant weak grunting or whining sound. It was pale and frothing slightly at the mouth. With consent of parents, I made a small incision through the skin at the anterior part of the anterior fontanelle, through which I passed a grooved director and easily raised the bone into place. The infant cried lustily soon as this was done, opened its eyes and a half hour later was put to the breast and nursed well. Up to this date the child is doing well and has suffered no inconvenience in any way.

Officers for 1910 were then elected as follows: President, H. G. Sanders; Vice-President, W. R. Elrod; Secretary and Treasurer, J. L. Atkinson; Censor, O. R. Reesor; Delegate to State Society, H. G. Sanders.

Moved and carried that the next meeting be held on the regular meeting day in April. At this meeting, all members are expected to contribute to the meeting by a paper or a written report of a case as he may choose.

J. L. ATKINSON, Secretary.

Beriberi.—Hewlett and De Korte suggest in the British Medical Journal, London, that beriberi is a protozoan infection, that the infecting agent is eliminated in the urine, and that the urine is the source of infection.

Pancreatitis and Sprue.—Robson thinks that it is highly probable that some of the cases diagnosed as sprue owe their origin to inflammatory disturbance of the pancreas, and that in other cases the pancreatic disease forms an important complication requiring treatment.—British Medical Journal, London.

Cirrhosis of Liver.—Willson records a case of congenital syphilitic cirrhosis of the liver, which proved fatal to a child three months old. He believes that the changes in the liver probably commenced during intrauterine life. The liver is said to have been of enormous size, but unfortunately was not weighed.—British Medical Journal, London.

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ORIGINAL ARTICLES.

ABORTION.

BY CHARLES FARMER, LOUISVILLE.

In dealing with the subject of abortion it is my purpose in this paper to discuss the subject of "spontaneous" and not "criminal abortion", though the symptoms and treatment of the two conditions are essentially the same. The latter is much more dangerous to the life and health of the woman because of the traumatism produced and the great danger of the introduction of septic material into the uterus.

This subject was chosen chiefly for the purpose of bringing out in the paper and the discussion the prompt and thorough treatment of abortion so as to lessen the number of cases of chronic pelvic disease which have their beginning in the improper or neglected treatment of this condition.

American obstetricians define abortion as the expulsion of the ovum from the uterus before the sixteenth week of pregnancy. In the consideration of abortion the fetus is of little importance, the major role being played by the secundines. In premature labor and labor at full term these conditions are reversed.

The various works on obstetrics state that one abortion occurs to every five full term pregnancies. It is most likely to occur at the third month. While not so dangerous to life

as labor at full term it is more prone to be followed by pelvic disease. Statistics show that abortion is more apt to occur as women advance in age and that the highest percentage of cases occur in women past forty. This is what we would naturally expect as a result of traumatism to the pelvic organs because of previous labors.

A dead ovum is usually expelled from the uterus without much delay and the causes of abortion most frequently act by destroying the life of the ovum or bringing on uterine contractions.

Among the causes of abortion due to the ovum may be mentioned diseases of the membranes or placenta. Deformities of the ovum are said to be a cause of abortion. Hemorrhage into the chorion and between the chorion and the decidua is a cause of death of the fetus. It is in this condition that we meet with cases of "missed abortion" where the fetus remains in the uterus for weeks or months without producing any symptoms. The insertion of the ovum into the horns of the uterus may bring on contractions and cause its expulsion; a low insertion of the ovum leading to placenta previa is sometimes a cause of abortion.

There are a number of diseases of the pelvic organs of the mother that may cause abortion. The most prominent of these are endometritis, metritis, lacerations of the cervix, prolapse, retroversions and retroflexions, inflammatory disease of the uterine adnexa

and tumors of the pelvic organs. As an instance of abortion due to previous inflammatory disease I may mention a case that came under my observation. This woman was attended in confinement by a midwife about a year and a half ago. Labor was followed by infection. A pelvic abscess developed and ruptured spontaneously. A year later the woman became pregnant and aborted about the third month because of the adhesions existing in the pelvis. Surgical operations upon the pelvic organs and adjacent viscera during pregnancy often cause abortion. I have seen a number of cases in which large ovarian tumors and myomata of the uterus have been removed without any disturbance of pregnancy. The operation of ventral suspension of the uterus is sometimes a factor in the causation of abortion.

The infectious, as typhoid fever, pneumonia, erysipelas, smallpox, in a pregnant woman, are a frequent cause of abortion. Any disease attended by a prolonged, high temperature is apt to produce the death of the fetus. It is said that the death of the fetus always follows a temperature of 106° F in the mother.

Circulatory disturbances in heart disease are a factor in abortion by causing hemorrhages into the decidua. Convulsions as in hysteria, epilepsy and uremia are mentioned as causes. Injuries as from falls and railway accidents sometimes cause abortion. Psychic disturbances and excessive coition especially at the time when the menstrual period would occur are factors in the production of abortion.

Syphilis has always played an important role in the causation of premature labor. Its importance in the production of abortion is not so easy to determine because of the absence of demonstrable syphilitic lesions in the fetus before the sixteenth week. Some authors give syphilis as a cause of abortion in as high as twenty-five per cent. of cases.

The mechanism of abortion is described by Kelly as follows:

"An accumulation of blood between the decidua vera and the uterine wall sometimes occurs, and when the hemorrhage is slight it produces no contractions of the uterus nor disturbance of the circulation of the fetus, and the pregnancy may possibly go on to term. If, however, contractions of the uterus occur, the entire ovum is forced into the cervical canal, dilating it until the two cavities are converted into one. In such cases the patient has usually a slight flow before the uterine contractions are felt. This is the common, it might be said the normal mechanism of an abortion, as all membranes are cast off with the egg and the uterus re-

mains in the best shape for a regeneration of its mucous membrane and involution of its muscular apparatus. If, however, the decidua serotina is adherent, the decidua vera is drawn back over the ovum as it is expelled from the uterus, and appears as a long cord which may be replaced over the ovum."

Some authorities claim that part or all of the decidua may remain and regenerate to a normal mucous membrane, others claim that the retention of a part of it within the uterus is a source of great danger to the woman. Kelly says that, "unless it becomes saprophytic, septic or hemorrhagic it rarely causes any trouble and usually regenerates into a normal mucous membrane." At all events he says "the danger of the retention of the decidua has been much overrated."

The appearance of the ovum varies as to the time at which it is discharged. It may be expelled surrounded by its shaggy chorionic coat only, surrounded by the decidua or it may be simply enveloped by its amnion. The fetus may be discharged alone, the umbilical cord still attached or torn in two.

It is very important that everything discharged from the uterus be saved and carefully examined by the physician so that he may recognize the ovum when discharged and may know whether the uterus has been completely emptied or not.

Many cases of abortion in the early weeks of pregnancy are not recognized and are considered by the woman as simply a return of the menstrual function.

In most cases the diagnosis will be easy. In others it will be most difficult and it will be necessary to establish the fact that the woman is pregnant which in the early stage is not always readily done. Generally we will get a history that the woman has missed one or two periods and the early symptoms of pregnancy have appeared. In a few cases where a normal cessation of the menses has existed during lactation the first symptom of pregnancy is a bloody flow from the uterus and a threatened abortion.

The most important symptoms of abortion are a bloody discharge from the uterus and uneasiness in the pelvis. Ectopic gestation and a uterine polyp may be mistaken for an abortion. In ectopic pregnancy there is a history of a cessation of menstruation, but the flow is more irregular and less profuse than in abortion. The pain is generally more severe and more characteristic of colic than labor pains. The patient will suffer collapse where the bleeding is severe. The ectopic sac is, as a rule, more tender to pressure than the pregnant uterus. The mistake has been made

and the uterus enretted with disastrous results to the patient. In case of a uterine polyp there is no history of missed periods and very often the patient has had previous similar attacks. There is an absence of the early symptoms of pregnancy.

If the fact of pregnancy is established and there is a bloody discharge from the uterus with uneasiness in the pelvis and a bimanual examination reveals a uterus enlarged to the size corresponding to the time of pregnancy we should consider that an abortion is imminent, and should decide whether it is preventable or whether it is inevitable. If the flow of blood is not very great and regular uterine contractions are absent abortion may be prevented and the pregnancy continued to full term. On the other hand, however, if the hemorrhage is great and there are regular uterine contractions with frequent micturition, and an examination reveals a dilated os abortion will usually occur.

As to the preventive treatment of abortion, lacerations of the cervix, disease of the endometrium and malpositions of the uterus should be properly treated before the woman becomes pregnant. Disease of the heart and kidney should be appropriately treated. Should the infections as typhoid fever, pneumonia and erysipelas occur in pregnant women they should be treated on general principles without special regard to the prevention of abortion which is often inevitable.

In the case of irritable uterus which some authors speak of the woman should be kept in bed at the time the menstrual period would occur and at this time she should be given the bromides to allay the irritability of the nervous system. The fluid extract of *viburnum prunifolium* is highly recommended as a uterine sedative and may be given in half or dram doses three or four times a day. Syphilis should be treated by the administration of mercury and the iodide of potash.

Where the uterine hemorrhage is not great and the pains not severe, the os not much dilated and the membranes unruptured, we should endeavor to prevent abortion. The patient should be placed in bed in a darkened room and kept absolutely quiet. Opium in some form should be administered. It may be given as morphine hypodermically or as the extract of opium in the form of a suppository. The bromide of potassium and chloral are also of service to allay the nervous symptoms. The fluid extract of *viburnum prunifolium* as a uterine sedative is indicated.

When the uterine contractions are regular in character, the bleeding profuse, the os well dilated and the membranes ruptured

abortion is inevitable and our treatment should be along lines which will hasten the expulsion of the contents of the uterus. To favor this end we have two methods of treatment, the expectant and the active, the one supplemental to the other.

As in labor at full term the expectant plan of treatment may be followed up to a certain point. If the hemorrhage is slight and the membranes unruptured it is well not to be in too great a hurry as nature will probably be able to do the work. Small doses of ergot may be of service. The great danger from this plan of treatment is septic infection. Hellender has reported a series of seventy-four prolonged abortions and not one uterus remained sterile. An efficient method of controlling hemorrhage and aiding the expulsion of the uterine contents is the vaginal tampon. The external parts and the vagina should be thoroughly cleansed and the woman placed on a table in the dorsal position. The tampon is best placed in the vagina by introducing a Sims speculum and with a dressing forcep the gauze is carried up into the cul-de-sac, then into the fornices and then the vaginal vault in front of the cervix and lastly the vagina. Either plain sterile gauze or iodoform gauze may be used for this purpose. The iodoform gauze is objectionable on account of its odor, but it is claimed that it does not take on the foul odor that plain gauze does when left in the vagina. The tampon can be retained in the vagina by the use of a bandage. The tampon should be removed in twenty-four hours. In many cases the contents of the uterus will be found in the vagina when the tampon is removed. In those cases in which the fetus has been expelled and the cervix has closed again the tampon will dilate the cervix and often cause the expulsion of the secundines.

In those cases where the hemorrhage is alarming it may be controlled by introducing a uterine tampon which will bring about contractions of the uterus. It will also assist in separating the membranes from the uterine wall and dilating the cervix for further manipulation should it be necessary. Before introducing the tampon the patient should be prepared as for a major operation. She is placed on a table in the dorsal position, her feet held up by straps, a Sims speculum introduced and the cervix grasped with a tenaculum and drawn down. With a dressing forceps either plain sterile or iodoform gauze should be carried up to the fundus, the horns and then the cavity of the uterus should be filled. For this purpose we use a piece of gauze two inches wide and five yards long. A second piece is placed in the vagina. In an emergency a sterile roller bandage will an-

swer the purpose. This tampon should be left in from twelve to twenty-four hours.

Should the foregoing methods be unsuccessful in emptying the uterus we shall have to resort to the use of the curette or placental forceps. Emptying the uterus is the best method of controlling hemorrhage and preventing sepsis. It does not matter so much whether this is done with the finger, the curette or the placental forceps so much as it does whether it is done promptly, and with thoroughness and cleanliness. Not long ago I heard a doctor telling of some of his patients that had had abortions. He said that the fetus had passed and he allowed the placenta to remain for ten days and then he thought it was time to remove it. Repeated attempts to clean out the uterus as well as repeated examinations augment the danger of sepsis.

In abortions occurring in the early weeks of pregnancy the cervical canal is not very dilatable and the finger cannot be easily introduced into the uterus. The uterine contents can be better removed by the curette. In abortion occurring later the uterus is larger and the cervix more dilatable and the finger can be used to better advantage. In all cases where possible it is well to introduce the finger to ascertain whether everything has been removed. After the mechanical or manual evacuation of the uterus it should be irrigated with a hot salt solution. If there is considerable hemorrhage the uterus may be packed with gauze. Ergot given for a few days is of service in keeping the uterus contracted.

As to the after treatment, the patient should be kept in bed for eight or ten days. No douching should be allowed unless there is some special indication for it. The patient should use the commode for the evacuation of the bowels and bladder.

Sepsis following abortion is treated as that following labor at full term.

DISCUSSION.

Edward Speidel: I think the essayist has given us a very excellent paper on this subject. However, I wish to take exception to his very first sentence, in which he says that he has confined his remarks to ordinary abortion, and has not included criminal abortion, although the treatment is the same. I believe that the treatment of criminal abortion differs materially from that of ordinary abortion.

I believe in a combination of the expectant and active plans of treatment in abortion. I prepare the patient in this way: The vagina is first douched with normal saline solution, and then by means of a speculum, the cervix is exposed, then some gauze is moistened and wipped

out of a 1 per cent. Lysol solution and packed into the vagina. This is left in place until the next day, and in many instances the ovum is expelled in consequence of this tampon. If not, when the tampon is removed the cervix is generally found to be dilated and has become patulous. The tampon is removed and a new tampon introduced. If the ovum is not expelled on the next day, then the patient is curetted under strict asepsis. In the treatment of criminal abortion, which is usually accompanied by fever indicating more or less sepsis, the curette is not used. The procedure just mentioned is gone through with and, if the ovum is not expelled, the cervix is dilated under general anesthesia and the finger or placental forceps introduced, and I believe that what cannot be removed in this way had better be left to ooze away by degeneration rather than risk scraping away the protecting zone that exists in the uterus and setting up a general peritonitis.

One point which the essayist made I did not thoroughly understand: that is, packing the uterus with gauze. I wondered whether he meant to pack the uterus with gauze up to the fundus without the use of an anesthetic.

A. R. Bizot: I avoid the use as far as possible, of the word abortion; it is a very bad word to use in good families. Another member of the profession would clearly understand what is meant, but the word abortion has a grating sound in the ears of a great many people; the word miscarriage is so much more fitting and so much better received than is abortion.

Dr. Farmer and Dr. Speidel have very nicely outlined the treatment of miscarriage, but I do not know any condition which is more subject to meddlesome treatment than is miscarriage, in the majority of cases. I believe that ninety-five per cent. of these cases will be taken care of by nature if left alone. Of course, where we have complications, such as hemorrhage, sepsis, etc., we have to resort to packing, curettage, etc., but most of these cases if left alone will take care of themselves.

R. A. Bate: I have enjoyed the Doctor's paper very much indeed. In this connection I would like to relate a little personal experience; I do not know whether to report it as a new method of producing abortion, or as a case of personal stupidity.

This patient was a domestic, who said she was 25 years of age. She came to me claiming to have missed her menstrual period, and, presumably, her statement was correct. She shed a few tears and my diagnosis of pregnancy was largely based upon the pathetic way in which she spoke of having missed her menstruation. I watched her for about two months without making any examination, during which time there was no change, no nausea, etc. By this time she

had missed three periods. She had used the usual emmenagogues without any effect. Her tears when she first came to me had made it certain that she had been exposed to the possibility of pregnancy. After having had her under observation for about two and one-half months, I made an examination which disclosed the fact that the walls of the vagina were in a very bad state, and there was considerable vaginal discharge which I judged to be gonorrheal in nature. The uterus was rather high; the neck was closed, but apparently normal in size. I went over the tubes as well as I could, but could find no apparent enlargement. I told her that I believed she had been infected, but that no pregnancy existed, and that her condition was probably due to her anemia and to this local inflammation. I told her to come back in three weeks and the next time I saw her the same leucorrhoeal condition existed, perhaps thicker and more tenacious. She had been given an antiseptic wash. I cleansed the vagina, gave her some peroxide of hydrogen and told her to come back in a week. My physical examination had been as complete as I knew how to make it, but as an additional precaution I thought I would measure the depth of the uterus. I introduced a sound and it measured exactly two and one-half inches. I told her there was absolutely no question that the uterus was empty; that I had felt sure of it beforehand, but was now absolutely certain. She came back a week later and peroxide was again used, and a tampon of iodine and glycerin was applied. A week later, as there was no apparent change, I injected six or more drops of peroxide of hydrogen into the uterus itself. After about the third application I noticed that the sound with absorbent cotton attached and saturated with peroxide, seemed to pass in more readily than before. Then I noticed that the uterus seemed to be about five inches deep and I began to feel quite uneasy and thought of the many excellent men I had heard of who had gone into the abdomen where pregnancy existed. Still, there were none of the usual signs of pregnancy. About three days later I received a telephone message stating that the patient was in great pain. I went to the house and, upon examination, found considerable enlargement on the right side, apparently the tube. It was only on deep pressure that the enlargement could be detected. The patient had a temperature of 102 or 103 F., with a rapid pulse and in great pain. I called two surgeons in consultation, but they did not confirm my diagnosis of tubal complication. The patient was carried to the infirmary and relieved of a three-months' fetus.

I do not know whether to report this as an abortion due to peroxide of hydrogen or as an instance of personal stupidity.

Frank C. Wilson: Dr. Farmer mentioned the

use of ergot in minute doses as a means of prevention of abortion. I have experimented with this a great deal and I believe that, in threatened abortion, if we will make use of small doses, it will have the effect, not of emptying the uterus, but of quieting and regulating the circulation. I have seen, in my own experience, a number of cases where abortion seemed almost certain to take place, clear up under drop doses of fluid extract of ergot, given every hour or every one and one-half hours. In fact, in some cases where there was a little protrusion of the mass from the neck of the uterus, I have seen all this disappear and all danger of abortion pass off under this simple medication, and the pregnancy go on to full term. I simply wish to mention this as an interesting experience, and a remedy that is well worth testing, because if you do not succeed in preventing the threatened abortion, your patient is no worse off than before.

Thos. L. Butler: I had the pleasure of seeing this case with Dr. Bate about eighteen hours before the abortion occurred. I was not at all certain that she was pregnant; in fact, I rather confirmed his diagnosis at that time. A mass could be distinctly felt on the right side. The abdomen was somewhat enlarged, but the woman was apparently pretty severely infected. I thought I could move the uterus rather readily without moving this mass, but I presume I must have been mistaken. Although the woman was in a great deal of pain, it was not periodic in character, but rather continual. She was having no hemorrhage at that time nor was the os dilated. She submitted very readily to a thorough examination and I will admit that I was completely fooled in the case.

Chas. Farmer: I have very little to add in closing except to thank the gentlemen for their discussion.

In regard to the uterine tampon, I use that only in cases where the hemorrhage is alarming. In that way I control the hemorrhage and afterward do whatever is necessary to relieve the condition.

Like Dr. Bizot, I dislike the term abortion very much, but all the text books use the following classification: During the first six weeks of pregnancy, expulsion of the ovum is called abortion; from the 16th to the 28th week it is called a miscarriage, and from that time to the 40th week, a premature labor.

In regard to the use of ergot, most books recommend it in small doses, claiming that if you give it in large doses it produces contraction of the lower segment of the uterus and does not aid, but retards the expulsion of the uterine contents.

THE BALSAM-OIL DRESSING IN SURGERY.

BY ALBRO L. PARSONS, LOUISVILLE.

The perusal of recent literature shows that little attention has been accorded Peruvian Balsam as a surgical dressing in this country, while in Germany it has been the subject of exhaustive research. It is the juice of a Central American tree. As it contains no volatile oil, it is not a true balsam (1). It is composed of cinnamein, cinamic acid, and resins, with some benzoic acid and other bodies.

Whether the balsam is an antiseptic or not is a disputed point. Wood (2) denies any such property, and, indeed, Van Arsdale (3) who first advocated its local use in this country, thought likewise. The mass of evidence, however, seems to be against this view. The most recent advocate of its use is Suter (4), who, in reporting nearly six hundred cases, from the Innsbruck Clinic, explains its antiseptic action thus:

First, "the ability of the balsam to mechanically enclose bacteria and in this way eliminate the same as far as the organism is concerned."

Second, a slight, but decided, bactericidal power which, taken into conjunction with mechanical isolation, is the more potent.

Third, he claims that the balsam gives up bactericidal substances to the tissues.

Fourth, and lastly, he finds it to possess "to the highest degree, positive chemotaxic powers. When one realizes that not only is the process of phagocytosis caused chiefly by the leucocytes, but that the latter stand in intimate relationship with the formation of those bactericidal substances of the body fluids, (alexines), it appears justifiable to ascribe a certain favorable action, in the process of wound healing, to this enormous accumulation of leucocytes caused by the balsam." He has proved each of these claims by extensive experiments.

Mayer (5), in a recent article, speaks of a digestive action of the balsam on the tissues, but a study of his work shows that he used the drug undiluted.

Van Arsdale, in 1893, after long search for a vehicle with which to dilute the balsam, finally decided that castor oil, in proportion of one to ten, gave the best results. He reports twenty-nine thousand cases of all sorts of wounds so treated and to him is due the credit of introducing this now popular mixture. When used in stronger proportions, as one to four, the granulations seem to fade away and there is a slowness in the healing process not seen when the more dilute mix-

tures are used. This may be an example of the digestive action mentioned by Mayer. In the more dilute mixtures, on the other hand, the protective effect of the oily dressing predominates, pus formation is not checked, and the granulations tend to grow spongy.

Van Arsdale recommends the incorporation of dusting powders into the mixture, but this has never been found of advantage by the writer. A possible exception may be made in the case of iodoform, the odor of which is masked by the fragrant balsam. In all cases only the purest balsam should be used, and the oil should be sterilized on three successive days before mixing the two.

To enumerate the many different kinds of lesions which are successfully treated with the balsam-oil dressing, would be impossible. In brief, I should say that it has a place in the treatment of granulating wounds, or wounds which you wish to heal by granulation. Treatment other than this dressing will, of course, be necessitated by the nature and character of the wound.

In burns, of all degrees, it excludes the air and prevents infection. I have never used it over the whole of a burn which covered more than one-sixth of the body for fear of a possible renal irritation. Leg ulcers, after correcting the individual cause, readily granulate under application of the balsam mixture. Here it should be used on eight layers of gauze, covered with oil-silk or rice-paper. The odor disappears, the dressing will not have to be changed oftener than every forty - eight hours, and during the removal of the dressing, the tender epithelium at the margins is not torn off.

Crile (6) advocates its use as a stimulant in granulating wounds which fill up slowly. It can be used in packing abscess cavities of all kinds, and sinuses, the cause of the sinus having been dealt with. The lubricating effect of the oil greatly lessens the pain in packing these cavities by eliminating friction at the wound edge. Indeed, the more I use balsam of Peru, the less I use gauze packing. For instance, in a large abscess of the thigh, after removing the primary packing, the balsam mixture was injected through the tubes which had been inserted in the upper and lower incisions. Each day fresh balsam was injected, the thigh being gently rubbed to insure contact over the entire area. In a remarkably short time I was enabled to remove the tubes, the wound healing from the bottom. In working with children the avoidance of packing will be appreciated.

In factory wounds, ranging from simple abrasions to crushing injuries, the technique is as follows, where obvious surgical procedures are not indicated. The wound is not

washed, but protected with clean gauze, while the surrounding skin is gently rubbed with alcohol. Then, by massage or injection, every crevice of the wound is filled with the balsam oil, the limb enveloped in gauze and covered with oil-silk. In forty-eight hours when the wound is dressed, we are often surprised to find tags of skin, etc., which seemed unable to retain vitality, looking pink and healthy. This may be due to what Suter calls "the antagonistic action of the drug in preventing putrefaction in dead tissues."

Seventy-two hours after skin-grafting, according to the Reverdin method, I have used a more dilute mixture, one to twenty-four, with entire success. Suter advocates its use in compound fractures, and in "all lacerated wounds of the most varied nature." He adds "In all these conditions healing could be obtained without severe inflammatory process even though the wound were badly lacerated (crushed hands) if the cases only came under treatment within the two first days."

That certain lesions are not, of nature, fitted for the use of the balsam-oil dressing is perfectly true. The wound must be an open one. The fallacy of injecting the mixture into a cavity through a small opening, has been recently demonstrated to the writer. A septic knuckle joint, with bones eroded, steadily grew worse under injection of the oil through a fistula leading down to the joint cavity. The process of bone caries is uninfluenced by the balsam, but, having removed the dead bone, it forms an ideal dressing to encourage healing from the bottom.

The same rule of good drainage holds true in abscess cavities: gauze impregnated with the balsam oil must be used only after a generous opening has been made. I disagree with one observer who claims good results on injecting the mixture into bone felons through a small incision. I also disagree with Gallant (7), who says that the skin around the lesion is never irritated. I have seen one such case—an indolent leg ulcer, the skin surrounding which was quickly covered with pustules after application of this dressing. These vanished on its withdrawal and promptly re-appeared with its use.

Broehenhemmer (8), in 1908, found that when wounds infected with tetanus were treated with a balsam of Peru salve, the period of incubation was greatly prolonged, thus gaining valuable time for the use of the serum.

As to the renal irritation, spoken of above, a somewhat superficial review of the literature on this phase of the subject gives one the idea that such cases have to do with the application of balsam of Peru over large areas of the intact skin. Hoffman (9), Rich-

artz (10). Indeed this seems to be the opinion of the reporter of the Innsbruck cases. He caused complete urinalysis of 588 cases to be made, and found albumin in none. Although Brochard (11), in discussing his paper, claims to have found albumin and casts where the balsam was used over comparatively small areas. Suter suggests that this may be due to impurities in the balsam. Personally, I have examined a number of cases for albumin where the amount of balsam used was unusually large, and have found neither albumin or casts. I have had no experience with Peruvian balsam in skin diseases.

The advantages of the balsam-oil dressing are, briefly:—(1) continuous drainage of the wound surface; (2) wound secretions are not retained under an impervious scab, and the absorption of toxins is thus avoided; (3) bacteria are killed and eliminated from the field; (4) epithelium grows and is not rudely torn off at each dressing; (5) dressings are almost painless; (6) granulations are encouraged, but do not become spongy; (7) irrigation is unnecessary, and (8) the wound does not require re-dressing oftener than forty-eight to seventy-two hours.

Let me add, in closing, that this mixture is not a panacea, but in my hands it has replaced dusting-powders and in the management of open wounds it plays an important role.

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DISCUSSION.

W. C. Dugan: I have had an opportunity of witnessing some of Dr. Parsons' work in the clinic, and I can bear testimony to every word he has said. It is called "Parsons' dressing" by the students in the college, and he certainly

gets splendid results from this method of treatment.

R. L. Ireland: I do not know that I can add anything to what Dr. Parsons has said, except to say that Dr. Cartledge very often employed this dressing, as did Dr. Bullitt, and in the past eight years I have had considerable experience with it. That experience has been very favorable, and I can also testify to the good features of the balsam dressing as outlined by Dr. Parsons.

Edward Speidel: I had the pleasure of being in Dr. Van Arsdale's clinic in 1895, just two years after he introduced this formula, and all suppurating wounds were treated with this dressing. His clinic was situated on the Bowery in New York, and when I was there the weather was pretty warm, and one objection to the dressing was that its odor, in connection with the pus, became very offensive at times. I returned to Louisville in 1895, and I think I introduced this dressing into the Hospital College of Medicine, and used it pretty extensively there and in my own practice for a number of years.

I believe it is fair to state that the most important ingredient in the mixture is the castor oil, which drains the suppurating wound and cleanses it, and when you remove the gauze packing the wound surface is absolutely clean. The balsam undoubtedly stimulates granulation. However, in suppurating wounds, we generally have excessive stimulation of granulation.

On account of the odor, I made a change in the formula which I have used with great satisfaction even since; that is, the substitution of Europhen powder for the balsam of Peru. In treating suppurating wounds and abscess cavities, a piece of gauze is thoroughly saturated with this dressing and then packed into the cavity and dry gauze laid over it. When dressing again becomes necessary, the packing is easily removed and replaced. If anything, the skin surface is bathed with alcohol. I think you will find this an improvement on the other dressing.

Jno. R. Wathen: I would like to ask Dr. Parsons' opinion of stearate of zinc, which is so popular to-day as a dusting powder, combined with Balsam of Peru.

Dunning S. Wilson: I would like to ask Dr. Parsons if he has ever noticed any difference in the efficacy of this dressing after it has been standing for any length of time. Does not the action of the air tend to oxidize the balsam?

Dr. Parsons (Closing): Dr. Wathen spoke to me some time ago about adding stearate of zinc to the dressing, but I have not had an opportunity of trying it. I believe there is a dusting powder composed of balsam of Peru and stearate of zinc, without the castor oil.

Answering Dr. Wilson's question, I will say that most of my experience with this dressing

has been at the clinic, and it does not stand very long there. We use a bottle of it a week and, while at the end of that time there is a certain settlement of hard flakes, I have never noticed any difference in its effect on the wound.

I have had no experience with the dressing of which Dr. Speidel spoke.

SYMPOSIUM.

WOMAN AS A LIFE INSURANCE RISK.

· FROM THE VIEWPOINT OF THE UROLOGIST.

By H. J. FARBACH, LOUISVILLE.

The latitude allowed me in this paper is in a sense rather restricted as it deals only with the examination of a specimen of urine supposedly collected under proper circumstances within the preceding twenty-four hours. A caution, often repeated in the past and followed to the letter in the instance in which the applicant is a man, is the absolute cleanliness of the receptacle in which the urine is collected and the passing of the urine in the presence of the examining physician. This precaution, however, is often overlooked in the instance in which the applicant is a female. Modesty and anatomical construction make it impossible for this procedure to be followed. The applicant is instructed to have ready when the examiner calls, or to bring to his office later, a specimen of her urine in a clean bottle. In most instances this is obtained by first passing the urine in some vessel and then pouring the same in the first bottle found after a simple rinsing. It is useless to go into detail as to how such a procedure may render the following urinalysis absolutely worthless. In nearly every specimen of female urine examined vaginal cells are found. This, of course, means contamination. The woman who cleanses her face with a powder-rag will in all probability try to defeat the earnest endeavor of the smegma bacillus with talcum powder heavily scented with some rare perfume. And it is not uncommon to find starch granules in the urine of the weaker sex. Within my limited experience I have met with two cases in which a diagnosis of genito-urinary tuberculosis in the female had been made from the finding of an acid fast bacillus in the urinary sediment. Clinical symptoms in either case did not corroborate the microscopical findings. Both these individuals were given a good cleansing bath, a vaginal douche and the urine collected by a competent nurse, and it was found after repeated examinations under these circumstances that no more acid fast bacilli were present. The smegma bacillus had been

misinterpreted. A doctor should be more positive and explicit in his instructions to a woman in the matter of collecting a sample of her urine. If you are going to test a stomach you clean it out before you give the test meal; if you are going to designate the offending organism in an abscess you eliminate contamination as far as possible; if you are going to get a reliable specimen of urine from a woman, have her prepared properly before the sample is collected. The external genitals and the vagina should be cleansed thoroughly and the urine passed directly into a sterile bottle furnished by the examiner. Urine collected under these conditions will allow a correct interpretation of the kidney and bladder of the individual.

The female is, of course, subject to the same kidney and bladder changes as the male; not so frequent or as severe, perhaps. Her mode of life probably accounts for this. She is not exposed, as a rule, to the climatic conditions or to the mental, physical or sexual excesses, as is the male. Pregnancy is perhaps the greatest etiological factor in the renal change in woman. Statistics then would lead us to believe that a woman is a better risk than a man from a kidney, heart and liver standpoint. Diabetes, we know, is more common among males than females.

The examination of urine as made by the average examiner consists of chemical tests and a microscopical search.

The taking of the specific gravity and the tests for albumin and sugar, comprises, in most cases, the chemistry of the examination. I wish to call attention to a test that our local profession as a whole have paid very little attention to, although it is one of the most valuable. That is the Schlesinger-Holt's benzidin test for blood. This test is a simple one, and easy to make. A small amount of benzidin (I prefer Merck Benzidin for Blood Tests) is dissolved in about 2 C. C. of glacial acetic acid and ten drops of this are added to 3 C. C. of peroxide of hydrogen. This mixture forms the reagent. The objection raised to the benzidin test in the past has been that it was too sensitive and was liable to be misleading in that pus and mucus contained an oxidizing ferment that would produce a positive reaction. Gentle heating of the urine will destroy any oxidizing ferment present and the Schlesinger-Holt method overcomes the hyper-sensitiveness, by using a very small amount of the urine to be tested. After preparing the reagent as before described, add two or three drops of the heated urine to it. A positive reaction is indicated by the appearance of a clear green or blue color within a relatively short time. It will show blood in dilution of 1-80,000.

The average microscopical examination consists of the search for crystals, amorphous salts, casts, red and white blood cells, epithelium and pus cells. This part of the examination should be carried one step farther in the case in which the applicant is a female. After the slide containing the sediment has been examined for the preceding it should be set aside, protected from the dust, and allowed to dry. At room temperature this takes some time. The drying can be hastened somewhat by carefully heating the slide, but one must be very careful and not get the temperature too high or the specimen will be destroyed. After thoroughly drying, fix in a flame as an ordinary sputum or pus slide and stain by the Gram method.

I am sure that there is not an examiner present that would consider a woman who is the host of a latent gonorrheal infection a good insurance risk. The large percentage of deaths among females due directly or indirectly to gonorrheal infection is well known. That it is often present where least expected it is equally well known. No class of society enjoys immunity to or freedom from this infection. It therefore devolves upon the examiner to make this closer microscopical examination. In instances where suspicion is aroused by the urinary findings a visual examination should be requested and smears made of the secretions of the vagina and cervix.

Remember that the tubercle bacillus is a Gram positive micro-organism while the bacillus of Eberth, dysenteriae and Colon are Gram negative, this same stain will call attention to the tubercle bacillus, and the findings could be substantiated and controlled by staining a second specimen by the Ziehl-Neelsen method.

In conclusion: from the viewpoint of a urologist the average woman free from gonorrheal infection should be a better risk than a man. Her position in society does not expose her to the mental and physical strain that the man must endure in this strive for success? In disposition and vocation she does not run the risk of accident as does the male. But when insuring a woman, even though she be free of any gonorrheal infection at the time of examination, the insurance company is placing a bet against the *Diplococcus* of Neisser; the frequency with which he demands his measure can best be told by the gynecologist and the general practitioner.

I wish to take this opportunity to thank the chairman and the members of this section for the invitation to take a part in this symposium.

FROM THE MEDICAL DIRECTOR'S VIEWPOINT.

BY JNO. G. CECIL, LOUISVILLE.

Notwithstanding the average expectation of length of life of the female is about three years greater than that of the male, most of the regular life insurance companies look somewhat askance at the female applicant. Some companies decline outright to consider female risks; most of those that do accept them charge an extra premium, and others limit the amount which may be written on a single life. After the climacteric, other things being equal, a selected female risk is quite as good as a male. It will simplify matters in discussing this question to consider the different phases seriatim.

All questions relating to the physical development, and likewise all general diseases affecting a life insurance risk, apply with equal force to both sexes. The personal examination of the female applicant presents a different problem. That innate modesty, which is the priceless adornment of innocent womanhood, renders the work of the male examiner far more difficult and uncertain, and often calls for an exhibition of tact which, to say the least, is not the possession of all insurance examiners. A designing applicant of the gentler sex would not be slow to take advantage of this situation, especially if she were previously coached by an unfaithful or dishonest agent. When there is reason to suspect any attempt at fraud, or the procurement of a complete examination by a male examiner is manifestly impossible, the best remedy is the substitution, when practicable, of a female examiner. For example, the examination of the female chest without removal of the corset and every article of dress that seriously interferes with accurate work, is practically a farce.

The prospective dangers of the child-bearing period in the female are quite counterbalanced by the greater hardships and exposure of the male sex; so that the relative vitality as between man and woman is not so important as it might appear. However, practically all companies have adopted some general restrictions in regard to the acceptance of child-bearing women.

1. Pregnancy always calls for postponement until after parturition. Primary gestation is more hazardous, and complications of dysocia, hemorrhage, sepsis, eclampsia and mania, are not uncommon. "Among primiparae the rate of mortality considerably exceeds that of multiparae up to the ninth labor, after which the consequent risk increases with each succeeding parturition. Rapidly succeeding pregnancies, by reason of the incident exhaustion and the tendency toward de-

velopment of other serious diseases, constitutes a reasonable cause for postponement or rejection. This is especially true of those having a well-defined tubercular tendency.

2. Neither engaged women, nor childless married women (where the sterility is ascribable to the wife) are desirable risks.

3. Those who have suffered one or more miscarriages should pass through a subsequent normal pregnancy and parturition before acceptance.

4. "A history of repeated miscarriages, suggesting, as it does, syphilitic disease or criminal practices, malpresentations from deformed pelvis or other causes, instrumental labor, post-partum hemorrhage, uraemia, phlegmasia dolens, extreme emaciation or exhaustion during lactation, are conditions that reject."

The dangers associated with the climacteric period are so many and so well known, that applicants during this critical period should, unless exceptionally good, be postponed until the change is fully passed.

Female applicants are especially liable to misstate their age, and the substitution of healthy for abnormal urine is more easily accomplished with women.

"Very serious pelvic disease may exist without outward evidence, and women are especially prone to conceal vital facts bearing upon this point." To circumvent this the examiner should never pass hurriedly and carelessly over this part of the history. If there be suspicion of pelvic or abnormal disease, nothing short of a report of the most thorough and painstaking investigation, including physical examination, should be submitted to the medical director. But, as this phase of the subject is to be presented in a separate paper in this symposium, the matter may be left for presentation by the accomplished author.

Another part of this subject of immense interest to the insurance company, but which, per se, does not directly concern the medical examiner, is the question of insurable interest. The examiner, however, as the guardian of his company's interests, should be on the lookout to prevent the perpetration of fraud, and, of course, should so advise the home office when there is the least suspicion. It is well to remember that there is more danger in insuring female lives from this source than in any other class of risks. All insurance companies are particular to inquire closely into the question of insurable interest that the beneficiary may have in the insurance upon a female. It is well, therefore, to inquire briefly what constitutes an insurable interest.

From a blank sent out by a local company

to be filled by female applicants, the following definition of insurable interest is taken:

"If the beneficiary named be:

(a) Husband. State in detail his occupation, condition in life and financial relationship to the applicant.

(b) Children. State their ages and the character of their dependence upon the applicant for financial support.

(c) Parents. State their circumstances and define their financial interest in the life of the applicant.

(d) Estate. State who are now interested. If there be husband, children, or parents in such interest, the facts in their case should be as fully recited as if each, or all, had been directly made beneficiaries under the application."

Experience has shown that insurance on lives, whether male or female, in which no pecuniary interest appears to exist on the part of those benefited, is generally speculative in character and proves a loss to the company. A family dependent upon the income or earnings of a female has an insurable interest in her. Indebtedness of a female may be insured by a creditor upon the life of a woman. The company should acknowledge the interest by mentioning the transaction in the policy itself.

An insurable interest in a woman must be founded upon an income depending upon her life, which may come in either of two ways; (1) by property left in trust for her benefit, the income from which reverts to parties outside her immediate family at her decease in which her husband and children are pecuniarily interested; (2) by her own exertions in support of her family. "When such insurable interest clearly exists, no one can be benefited by the death of the insured beyond the amount of their interest, and there is, therefore, no inducement to fraud. If the insurable interest is ignored and policies made haphazard, the beneficiary has an interest in the death of the insured and not in the life, and this is a direct incentive to crime." Consequently, "no application should be forwarded to the company unless it clearly appears that the beneficiary has an interest in the continuance of the life of the insured, which bears a proper relation to the interest in her death which the insurance sought would give."

DISCUSSION.

B. J. O'Connor: First, in regard to Dr. Farbach's paper, I heartily agree with him that, in women, there is danger of mistaking the smegma bacilli for tubercle bacilli, particularly when a certain amount of pus is present. We cannot possibly differentiate between the two organisms

by staining, and the only way is to give instructions to exercise great care in voiding the urine, or have the patient catheterized.

Examination of the urine of applicants for life insurance is an important subject. The test for blood in the urine, spoken of by Dr. Farbach, is a very valuable one, but I do not think it is necessary as a routine measure. The ordinary eye test is sufficiently accurate, because, under proper conditions, the presence of blood in the urine will nearly always be accompanied by at least a trace of albumin.

There is a test, however, which could be easily and profitably adopted by insurance companies; that is, the test for indican. It is easily carried out by the examiner, and, while it may indicate comparatively trivial conditions like constipation, it is, on the other hand an evidence of suppuration, febrile conditions, malignancy, etc.

In the past, insurance companies have never gone to the point of asking for differentiation of bacteria found upon microscopic examination; however, this is scarcely necessary, because where signs of pus and bacteria are present in the urine, the applicant should be at least postponed.

I have nothing to add to Dr. Cecil's paper except to indorse everything he has said. I see no reason for the limitations mentioned in his paper, placed by the insurance companies upon the acceptance of female applicants, nor do I understand why they should not be considered as good, if not better risks than men.

W. Ed Grant: As Dr. Farbach was reading his paper, I was thinking how important it is to present to the average medical examiner something practical, that he himself will be able to keep up with. Very few examiners in the field will make use of the refined methods of diagnosis which the doctor takes up, and they are apt to become confused and discouraged when they realize that it is a part of their work. It is a great deal better and more practical to have the average country examiners obtain a specimen of the urine and mail it to the home office than to require them to examine it themselves. Of course, the examiner here in the city can do it very satisfactorily, but the average examiner throughout the country is often unable to carry out these finer points of diagnosis.

I would like to suggest something to medical examiners that will help them in the practical part of their work; that is, how best to proceed in making examinations of female applicants. One reason that insurance companies are afraid of female risks is that in the majority of instances, the examinations are imperfectly made. Women are really better risks than men, if properly examined. It requires considerable tact, but the examiner who goes to work in a business-like way to get answers to questions on the blank will

usually get candid replies. It also requires a good deal of tact to get a specimen of the urine. It is a good plan to begin by asking the woman the usual questions first, and then hand her a wide-mouthed bottle, remarking that you have found everything satisfactory so far and that you would like for her to go to her room and void a specimen of urine. If you put the bottle in her hand and take it as a matter of course that she is going to do it, not one out of twenty will refuse. When she is about to leave the room to void the urine, you should ask her to remove her corset before she comes back, so that you may listen to her heart and lungs. She will then return with her corset off and you can make a thorough examination of the chest; whereas, if you begin by telling her bluntly that she will have to go upstairs and take off her corset, it is apt to make her somewhat nervous and she may refuse to undergo the examination.

Measuring a woman is a matter which is often confusing to the average medical examiner; he does not always know just where the umbilicus is. The best plan is to take two measurements, one at the waistline, and one at the hips and mention them both, which will convey to the medical director a better idea of the measurement at the umbilicus.

Dr. Cecil's paper shows that he has given a great deal of thought to the question of insurance of women, and he has brought out some interesting points. I know that, if the insurable interest is a normal one, and the woman is engaged in business, most medical directors will treat the application of a female very much as they do that of a man of the same age. However, this question of insurable interest is a very complicated one, and Dr. Cecil's remarks show that he has investigated it thoroughly. It is a question that the average examiner knows very little about and one that it is well to call his attention to, because, if nothing is said about insurable interest in the application, the medical director cannot act upon it until he obtains the necessary information.

One other point: Not long ago, while talking with the medical director of our company, I asked him about female risks and he said he did not care very much for them because they could not be examined like men. I then asked him what he did in those cases where there was a suggestion of some pelvic trouble, and he replied that the examiner finished the examination in the ordinary way and reported to the medical director, but did not attempt to make any examination of the organs of the pelvis, and the family physician was then requested by mail, either to make a thorough pelvic examination and report to the medical director, or to state what he had treated her for in the past, how he had treated her and whether she had entirely recov-

ered. In this way the applicant is relieved of the embarrassment which would result if the examiner who is probably a stranger to the applicant were required to complete the examination.

Cornelius Skinner: As has been brought out, one reason why women are not classed on a par with men as insurance risks, is the possibility of concealment of facts from the examiner—the possibility of the applicants denying things which they know to exist, and which may not be discovered even by a double examination, and making it necessary for the company to call upon the family physician for a more thorough examination and statement. On several occasions I have taken it on myself to do that very thing, where I believed, from the general appearance of the woman, her surroundings, the way she handled herself in answering questions, etc., that she was concealing something. I have gone to the family physician, without the applicant's knowledge, and had him make a statement, and I have never known a doctor to make a false report in such a case. Of course, there have been instances where the doctor has been in league with the applicant for purposes of fraud, but I have never seen it done, and I do not believe it is often done.

In regard to urine examination, I am more than delighted to have seen this test for blood which Dr. Farbach has shown us, but, like Dr. O'Connor, I do not believe it is necessary for the examiner to go into the finer points of examination of the urine. Most companies, after years of experience, require only two tests — those for albumin and sugar. If these tests do not give the information necessary to determine the desirability of a risk, the test made at the home office will clear up the finer points of diagnosis.

As we grow older in this work, we learn from observation and experience, how best to handle the female applicant. Nevertheless, the fact remains that most insurance companies consider women as less desirable risks than men because of the unreliability of the report. Tact is the thing that will accomplish the best results, but how is the medical director to know how much tact the examiner has exhibited in making the examination? Not one examiner in a hundred, I suppose, is personally acquainted with his medical director. Therefore, the man who is really careful and painstaking must suffer for the shortcomings of the average examiner who is less careful.

I am sorry that the third paper on the program was not read, and I should like to hear Dr. Cecil make some remarks along the line of what Dr. Koontz should have said.

J. G. Cecil (Closing) One point, which Dr. Farbach has just mentioned in his closing discussion, struck me as being particularly valu-

able; that is, the application of the test which he has introduced this evening to examinations of women made during the menstrual period. It is an easy matter, under such circumstances, for blood to appear in the urine, and this would be apparent under the microscope; but, as you know, microscopical examination is not ordinarily required in these examinations, and it might be discovered and the woman rejected because of blood in the urine when there is really none there.

The matter of securing the urine has, I think, been about as scientifically dealt with by Dr. Grant as anyone could do it; I could not suggest any better way than that which he has outlined.

The fact that women void the specimen of urine in another room out of sight of the examiner, makes it easy enough for the applicant, if she intends fraud, to substitute other urine than her own, but when Dr. Grant hands his own private bottle to the applicant, and she brings it back to him right away, the outside of the bottle would most likely retain a sufficient degree of warmth to suggest to him that it had been passed by the applicant herself, and very recently. The normal heat of the urine would be imparted to the bottle, and if the bottle were cold he would know that the urine had certainly not been passed by the applicant in the last few moments.

As you all know, it is almost impossible to get a woman to remove her corset to permit of thorough examination of the chest, especially if the examiner is in a hurry, or the woman does not want to be disturbed. It is the easiest sort of a thing to overlook and it requires a good deal of tact to get the woman to take off her corset or any other garment that would interfere with a proper examination of the heart and lungs. I should think it would be almost impossible for any examiner to discover a heart murmur in a woman with a corset on, just as impossible as in a man with a stiff shirt on. The whole question, as has truly been said, resolves itself into a matter of tact on the part of the examiner getting what he wants without giving offense.

With respect to the urinalysis, another point that is of great importance to insurance companies is to know whether or not the woman has ever suffered from gonorrheal infection. We all know that gonorrheal infection in women means a great deal more than it does in a man. The great majority of surgical operations for affections of the tubes and ovaries are made necessary by reason of the woman having suffered from such contamination. The discovery of pus in the urine may suggest such infection, yet it is quite possible for a woman to have pus tubes, which would render her undesirable as an insur-

ance risk, and still show no pus whatever in the urine.

This brings us to the question which we expected to hear discussed by Dr. Koontz. I did not know that he would be absent or I would have taken more trouble to go into that phase of the subject, which is of very great importance. It is so easy for a woman to be suffering from some type of pelvic disease and not show it either in her carriage, demeanor, or any other way, particularly if she is disposed to conceal it. She may have a gonorrheal infection of the tubes which would necessitate an operation within a very short time after having been accepted as a risk. It requires a great deal of skill on the part of the examiner—more than is possessed by the average examiner—to make it clear that the woman has no disease which would render her unfit for insurance, particularly if he is dealing with a female who designs fraud.

Not long ago I had occasion to reject a woman applicant for insurance in my company. I think she had just passed the climacteric and gave a history that was absolutely unobjectionable and, under ordinary circumstances, she would have been accepted. However, something came out almost by accident. I think it was the credit report which mentioned the fact that this woman was suspected by her neighbors of having had had some sort of womb trouble. In view of this, I took the precaution to secure an independent report from her family physician, who very frankly stated that the woman was in a condition of active cancerous involvement. This saved the company a loss which it would probably have been called upon to pay within a year.

As stated by Dr. Skinner, I take it that very often, even when a woman wishes to conceal the existence of such conditions as this, the examiner can, by a little skillful manipulation and questions which, to the applicant, have no bearing on the subject, draw sufficient information from the applicant to arouse his suspicion. It may be the history of a headache, or a slight leucorrheal discharge to which she had paid no attention, or a number of miscarriages to which she had not ascribed any especial importance. Such things would lead the examiner to suspect the risk and then the suggestion made by Dr. Grant is an excellent one. Rather than allow the examiner, who is often a perfect stranger to the applicant, to make a more thorough examination, go direct to the family physician.

The question of insurable interest is one in which the examiner is not especially concerned, because all insurance companies cover this question with a blank to be filled out by the applicant, which defines very clearly the insurable interest of the beneficiary. Still it is a matter which the examiner should bear in mind, and he can often be of some assistance to the medical

director; for instance, I recently had to reject two female applicants on this account. One was insuring for the benefit of her husband, a man who was in business, and healthy and strong. I did not think the husband had any insurable interest in his wife. In one sense, he would profit more by her death than by her continuing to live, and, of course, the company had no means of knowing what the relationship between the two was; it might have been friendly and it might not have been. At any rate, it opens up a chance for fraud to which all insurance companies are very wide-awake. I also had to reject a female applicant who was insuring for the benefit of two or three children who were grown. Those children had no insurable interest in their mother and we would not accept the risk. These are just samples of the questions that come up for decision in the medical director's office. There has been a great deal of discussion as to exactly what is meant by "insurable interest," but it can be reduced to a few principles which can be very readily remembered. For instance, if a woman has an income bequeathed to her which, by the terms of the will, ceases at her death, the children of that woman are, of course, directly interested in that income, and she has a right to insure for the benefit of her children. Again, if a woman is engaged in any occupation, and has a family dependent for support upon the earnings derived from such occupation, they will profit more by her continuing to live than by her death; consequently, the children of that woman have an insurable interest in the life of the mother.

INDICANURIA.

By F. C. ASKENSTEDT, LOUISVILLE.

Since Bouchard presented his theory of intestinal auto-intoxication, much research, both experimental and clinical, has been made in order to confirm or refute the claims of this renowned author. Until the present time experimental research has met with but meagre results. In the words of Alonzo Taylor: "Our knowledge of auto-intoxication and of the pathology of metabolism is in its earliest infancy. In no intoxication do we possess such distinct knowledge as we have concerning a large number of clinical poisons. For this the extreme complexity of the relations is responsible. Nor can much be expected until general and chemical physiology rest upon a broader basis." It is, therefore, to clinical rather than experimental investigation that we must turn for information regarding enterogenetic auto-intoxication, and while even clinical experience sheds but an uncertain light upon it, the subject is of such immense proportion, and medical prac-

tice is, after all, dealing so largely in probabilities, that auto-intoxication has become a subject of foremost interest in medicine.

As it has been shown that during the first few days after birth the intestinal canal of breast-fed infants is free from bacteria, and that new-born guinea pigs, kept free from bacterial contamination, thrive fully as well as their brothers and sisters living under ordinary conditions, Prof. Chittenden concludes that bacteria are not absolutely necessary for the digestive changes in the alimentary tract, but even possibly harmful at times. No one doubts the intoxication resulting from the less common intestinal infections with the comma bacillus, Fluegge's bacillus, or with proteus bacteria. Vignal and Suckdorf have calculated that from thirty to fifty billions of bacteria are passed daily in the faecal discharges of an adult healthy man, and when we consider that the natural immunity to many of these, notably the bacillus coli, is easily broken down, it seems that the intestinal flora is an ever-threatening source of disease. There is no reason to expect greater stability of antitoxic immunity than of antiseptic immunity. Mayfadden, Nencki and Sieber, have ascertained that not more than fourteen per cent. of ingested nitrogen passes the ileo-caecal valve in approximately healthy conditions. So celebrated an authority as Metchnikoff stated in a lecture delivered at Manchester that most of the products secreted by the microbes inhabiting the large intestines are poisonous to the human organism, and ardently maintains that intestinal auto-intoxication has shortened man's expectancy of life by several decades.

The recognition of intestinal auto-intoxication—by which we mean abnormal metabolic processes induced by a poison generated in the intestine—is not always an easy task. It should imply the identification of enterogenetic poison or poisons in the circulation, but such a specific poison has not yet been agreed on. Until this is done its symptom-complex is mere guess work. It may be assumed, however, that evidence of unusual bacterial activity in the intestine, either qualitative or quantitative, is significant of actual or impending pathogenesis, although the systemic toleration may be such as to maintain the physiological balance. The presence in the urine of an excess of products originating by fermentation or putrefaction in the bowel must be of greater clinical importance than the unabsorbed amount in the feces, and hence an examination of the urine will often afford a better index of the intoxication than an investigation of the feces. The only toxic product known to result from fermentation of carbohydrates is

oxalic acid, and as this is produced in too small a quantity and readily destroyed in the intestine, auto-intoxication from this source is not suspected. (Oxaluria, which presents a well-defined syndrom, is not dependent upon the amount of oxalic acid in the intestine.) Putrefaction of certain proteids in the bowel leads to a formation of a group of products with slightly toxic powers, the benzol group—indol, skatol, phenol and cresol. Whether these alone are capable of producing auto-intoxication when continuously absorbed in excessive quantities, or whether some unknown, more toxic substance is produced by the poteolytic action, is still a matter of conjecture. As in chronic poisoning with tobacco or coffee resultant symptoms and lesions are slowly and gradually produced in susceptible individuals, so, it does not seem untenable, a steady absorption of excessive amounts of the benzol series will gradually produce chronic intoxication in susceptible organisms.

Unfortunately, we have no ready method by which the absorption of the putrefactive products can be accurately estimated. We know that a part becomes directly oxidized; another part, not excessive, combines with glyconic acid in the liver and thereafter escapes observation; while a third part is conjugated with sulphuric acid and excreted in the urine as ethereal sulphates. To this last class indican (indoxyl-sulphuric acid) belongs. As the estimation of the ethereal sulphates in the urine is generally out of reach of the practicing physician, the indican test is practically his only recourse, and in connection with this test most clinical data regarding enterogenous intoxication are obtained. It is now generally conceded that indican in the urine is derived solely from bacterial decomposition in the intestine, with the rare exceptions of extensive putrefying masses elsewhere, as in putrid empyema, or putrefying foetus. Excessive amounts of indican are, therefore, reliable evidence of ex-

cessive putrefactive changes in the alimentary tract, though the reverse cannot be said always to be true. Indol production is subject to considerable variations, depending not only on the quantity, but also on the composition of the proteids consumed, certain forms, as gelatin, not possessing the aromatic nucleus. Besides only certain proteid splitting bacteria are capable of producing indol, so that its production is also influenced by the temporary composition of the intestinal flora. As pointed out by Bienstock, (5) and now generally accepted, the production of indol is mainly due to the activities of the bacillus coli, which cannot act on native proteids until these are reduced to tryptophane by the pancreatic juice or by the action of anaerobic bacteria.

The production and absorption of indol usually take place in the caecum and colon, but if from any cause the normal peristaltic action of the small intestine, which furnishes a readier avenue for its absorption, is interfered with, the absorption of indol becomes greatly augmented. This explains the marked indicanuria observed in cases of peritonitis, ileus, strangulated hernia, and other forms of obstruction in the small intestine, while obstructions in the colon do not affect the indican excretion in nearly the same degree. From forty to seventy-five per cent. of the absorbed indol is in some way appropriated by the tissues, the remainder reaches the liver as indoxyl to become converted into indican.

The excretion of indican in the urine is normally subject to certain fluctuations, due probably to a temporary storage of indican in the general tissue cells, as observed by Herter. Wesener (6) states that more aromatic sulphates are excreted during the day than during the night. Some examinations made by myself for indican in normal urine of four successive days and passed at the hours of 8 a. m., 12, 4 and 8 p. m., showed the following results:

8 A. M.				4 P. M.			
SP. GR.	INDICAN PER CT.	UREA PER CT.	RATIO OF INDI- CAN TO UREA.	SP. GR.	INDICAN PER CT.	UREA PER CT.	RATIO OF INDI- CAN TO UREA.
1023	.00108	2.	1 to 1852	1022	.00108	1.8	1 to 1667
1029	.0012	3.1	1 to 2583	1021	.00108	1.9	1 to 1760
1028	.00084	3.2	1 to 3810	1023	.00204	2.6	1 to 1275
1028	.00054	3.1	1 to 5741	1021	.00144	2.4	1 to 1666
Averages:	.00091	2.8	1 to 2748	Averages:	.00141	2.2	1 to 1592
12 M.				8 P. M.			
SP. GR.	INDICAN PER CT.	UREA PER CT.	RATIO OF INDI- CAN TO UREA.	SP. GR.	INDICAN PER CT.	UREA PER CT.	RATIO OF INDI- CAN TO UREA.
1016	.00108	1.	1 to 1574	1026	.00096	2.15	1 to 2239
1026	.00096	2.7	1 to 2813	1025	.00072	2.5	1 to 3472
1018	.00108	2.25	1 to 2083	1027	.0018	2.8	1 to 1555
1020	.0008	2.4	1 to 2500	1025	.0018	2.4	1 to 1333
Averages:	.00098	2.2	1 to 2242	Averages:	.00132	2.5	1 to 2150

The urine between 8 p. m. and 11 p. m. was not included. These figures probably approximate the average excretion of indican and its fluctuations. It will be noted that the lowest excretion, occurring in the morning of the last day, was followed by a gradual rise, reaching, in the evening, the highest relative amount recorded, or more than three times the percentage of the morning. The

practical inference is that a reliable estimate of the usual excretion of indican can not be had from a single specimen not representing a twenty-four hours' secretion. The following series of examinations of twenty-four hours' secretions passed by a healthy adult, male, about forty years of age and weighing about 150 pounds, will show less variations from day to day:

Date	Quan. in C C	Sp. Gr.	Urea $\frac{c}{\%}$	Indican $\frac{c}{\%}$	Total Ind.	Ratio Ind to Uria
Dec. 1	740	1025 $\frac{1}{2}$	3.	.00072	5.3	1 to 4166
Dec. 2	1400	1013	1.6	.00048	6.7	1 to 3333
Dec. 9	920	1023	2.5	.0013	12.	1 to 1923
Dec. 10	730	1025 $\frac{1}{2}$	2.7	.00132	9.6	1 to 2045
Dec. 11	750	1025	3.3	.00072	5.4	1 to 3194
Dec. 12	1,000	1020	2.7	.00066	6.6	1 to 4090
Dec. 13	1365	1017	1.7	.00066	9.	1 to 2576
Dec. 14	1270	1017	1.7	.0006	7.6	1 to 2833
Dec. 15	900	1025	2.5	.00108	9.7	1 to 2355
Averages:	1008		2.3	.00084	8.	1 to 2941

While the excretion of indican may always be considered abnormal, it is expedient to adopt some arbitrary standard of average excretion for the purpose of recognizing an unusual excess. Since the production of indican is dependent upon decomposition of proteids, the ratio between the indican and the urea outputs, as above denoted, seems a better basis for such a standard than either the percentage or the total amount of indican eliminated in twenty-four hours.

Aside from its bearing on intestinal obstruction, the value of indicanuria in differential diagnosis is limited. It shows a constant increase in but few diseases, but an excess may be found with more or less frequency probably in all.

Jaffe (7) found an increase of indicanuria in diseases of the small intestine, stomach, and duodenum. Salkowski detected an increase in ileitis and peritonitis. Senator and Brieger in chronic wasting diseases, as cancer of the stomach, malignant lymphoma and chronic peritonitis. Henninge in pernicious anemia, typhus, cholera, chronic suppuration, progressive atrophy of muscles, and Addison's disease. After studying thirty-two cases, Carles (8) concludes that increased indicanuria is not observed in hyperchlorhydria, but is due to diminished gastric secretion. Emerson (9) speaks of its increase in all obstructions of the small intestine, and in

intestinal putrefaction, as in diarrhea, especially cholera infantum, typhoid fever and dilatation of the stomach, and in some cases of nephritis. Clifford Mitchell (10) says that if we find a brilliant indican-reaction continuously in the urine of a middle-aged man, we should warn him to beware of contracting kidney. Concetti (11) concludes from numerous observations that in children suffering from tuberculosis, anemia, and scrofulosis of the lymph glands, increased indicanuria is very frequently observed.

Motta-Coco (12) states that in typhoid fever indican is not generally eliminated in goodly quantities before the third or fourth weeks, while in simple fevers its elimination is usually pronounced from the very beginning, and he considers this a sign of value in differentiating.

My own observations are still too limited to prove of much value, but the following tabulated cases taken from my case-books might be of interest to show the frequency with which excess of indican is met in a general run of cases. For the sake of brevity we will designate all cases where the ratio of indican to urea is greater than 1 to 1,500 as normal; those of a ratio of 1 to 1,500-1,000 as slight excess; those with a ratio of 1 to 1,000-500 as moderate excess; and any ratio below 1 to 500 as great excess.

DISEASE.	ABSENCE OF INDICAN.	NORMAL.	SLIGHT EXCESS.	MODERATE EXCESS.	GREAT EXCESS.
Cancer of Stomach and Liver					1
Chlorosis			1		
Gastroptosis		5			
Dilatation of the Stomach		1			
Functional Motor Insufficiency of the Stomach		1	1		2
Atrophic Gastritis				1	
Hypochlorhydria		1			1
Hyperechlorhydria				1	
Obesity with Fatty Infiltration of the Liver			1		
Neurasthenia		12	4	1	1
Organic Nervous Diseases		3	1	1	
Chronic Interstitial Nephritis		1	1		
Acute Uremia	1				
Arterio-Sclerosis	1	2		3	
Chronic Bronchitis		2			
Organic Liver Disease		1		1	
Asthma (one day after the attack)		1			
Renal Calculus		2			
Functional Albuminuria		1			
Heart Disease		1	2		
Henoch's Purpura		1			
Vomiting of Pregnancy (benign)		1			
Angino-neurotic edema		1			
Puerperal Sæpæmia	1				
Obstipation		1			
Acute Articular Rheumatism		1			
Epilepsy		1			
Dysentery					1
Chronic Diarrhea	1	1		1	1
Acute Indigestion				1	
Typhoid Fever, first week		1		1	
Typhoid Fever, second week		1	1		
Typhoid Fever, third week			1		
Pulmonary Tuberculosis, second stage			1	1	1

High arterial tension is generally ascribed to some toxic substance circulating in the blood. From this it has been inferred that cases of neurosis manifesting high arterial tension are due to auto-intoxication. I regret not having given this proposition systematic attention. Looking over my records, I find but five cases with excessive indicanuria where the arterial tension was recorded. Of these three cases presented great excess of indican, and all of this class showed abnormally high systolic pressure, though not in proportion to the indicanuria; while of the remaining two showing a moderate excess of indican, one had a tension slightly subnormal, while the other, a woman of sixty years and affected with mitral regurgitation, presented a normal systolic tension. Of nine cases with abnormally high tension, one passed no indican, six a normal amount, one a moderate excess, and two great excess. In this limited observation of high arterial tension associated with indi-

canuria only one-third of the cases showed an excess, but this fact has no bearing on the statement that high tension is due to auto-intoxication, for auto-intoxication is not always of enterogenetic origin, and, as we have seen, even when it is, it may not always give rise to indicanuria.

For the relief of indicanuria various methods have been employed. Time forbids me to mention more than a few now in vogue. The antagonistic action which various lactic bacilli are supposed to have upon certain anaerobes of the intestine has opened the way for the drug trade to supply the lactic bacilli in tablet form. For the purpose of testing this treatment, as well as other methods, I elicited the interest of a patient who had suffered alternately from constipation and diarrhoea since childhood and who was found to pass from 25 to 54 mg. of indican daily. In all, eighty quantitative examinations were made. Tablets of Lactone and Fermentacetyl

were used for a period of six weeks, and during this time the indican and urea ratio remained practically the same as before the experiment. After an intermission of a few months, Lactobacilline was tried for two weeks, with no better result. In the hope of lessening the absorption of putrefactive products by stimulating intestinal peristalsis, mechanical vibration of the abdomen was resorted to, but though promoting regular evacuations from the bowels and some improvement in the general health, no decrease in the excess of the indican was observed. Another patient, a chronic sufferer from loose foul stools, foul breath, coated tongue and extreme nervousness, passed 103 mg. of indican in twenty-four hours—a ratio of indican to urea of 1 to 170. After twelve days of vibratory treatment and a reduction of proteids in the diet, the indican excretion fell to 18 mg.—a ratio of 1 to 705—but no amount of treatment seemed capable of reducing it further. To test the virtue of a diet of ordinary buttermilk, a third patient, having lived for some time almost exclusively on a vegetable diet and passing 10 mg. of indican in twenty-four hours with a ratio of 1 to 1,100, was induced to subsist mainly on buttermilk for eight days, and after this nothing but buttermilk and bread was taken during the week following. At the end of this time, the indican excretion was 11.1-2 mg., and the ratio 1 to 1,135. During the succeeding week, the bread was removed from the diet and the patient lived on nothing but one-half gallon of buttermilk per day. This led to a lower indican ratio—1 to 654—and a total excretion of 24 mg. of indican during the twenty-four hours—a rise of more than twice the original amount. The exclusive buttermilk diet had now become so distasteful that she refused to continue it longer. She consented, however, to take one quart of buttermilk with bread and vegetables each day for another week, abstaining from all animal food. This brought on a decline in the excretion of indican, which fell to 19 mg. in twenty-four hours—a ratio of 1 to 762.

The unfavorable effect of the buttermilk diet in this case was undoubtedly due to the unusual amount of proteid taken with the milk, as shown by the urea excretion which rose from 10.66 gms. at the beginning of the experiment to 15.95 gms. during the exclusive buttermilk period. Probably the most effective way of combatting indicanuria is a reduction of the proteids in the diet to the minimum amount consistent with a nitrogenous equilibrium. When the requirement of the system for nitrogen is satisfied, further absorption is retarded, and the unabsorbed proteids in the intestine augment the putre-

factive process, thereby lowering the indican-urea ratio in the urine. Physical exercise, cold douches, sinusoidal electricity, or any other method by which a normal peristalsis and improved digestion can be induced should act favorably in properly selected cases.

The relief of excessive indicanuria by surgical removal of intestinal obstruction is often prompt, and the subsequent disappearance of existing nervous symptoms (13) is valuable clinical evidence of an intimate relation existing between indicanuria and auto-intoxication.

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DISCUSSION.

B. C. Frazier: Dr. Askenstedt has given us an excellent resume of some of his work, and it is evident that, not only has he taken great pains in preparing the paper, but in keeping records of his cases, and this data will be of great service to him as well as to the rest of us who are doing general work.

I have done so little laboratory work that I do not feel that I can discuss this paper as it should be discussed. My observations along this line are practically all clinical. The great variety of symptoms that we get in different cases of auto-intoxication is remarkable.

I was glad to hear the essayist speak of the disappointments he has experienced in trying the various diets and other methods of treatment. I think open, frank statements of that sort are worth a great deal more than when we tell the laity—and each other—that what we are prescribing will do so and so, and it does not always do it. One of the greatest difficulties is, as Dr. Askenstedt remarked in his paper, that the patient becomes dissatisfied and will not always give the doctor a fair opportunity to experiment. If they do not see immediate results they become impatient, and it is usually a question of reliev-

ing them or getting them satisfied in some manner or other.

I enjoyed Dr. Askenstedt's paper very much indeed. Laboratory work is helping us more and more every day, and very few of us now try to practice medicine without doing more urinalysis than ever before which is, perhaps, more helpful than any other one laboratory procedure. As the essayist has said, we must not stop at one specimen of urine, but examine two or three a week, and maybe for two or three weeks, before we can arrive at a correct conclusion.

G. A. Hendon: I feel like expressing my gratitude to Dr. Askenstedt for his expose of this important question; I certainly feel many times repaid for having come down in the rain. I feel, too, that it is little short of a disaster that such a paper as this should have been read before such a meager audience, and I do not know which emotion is uppermost—regret for those who did not hear it or congratulations to those who did hear it.

The work Dr. Askenstedt has done is worthy of record. It is so seldom that these kind of observations are ever presented to local medical bodies, that when they are presented and placed upon record, they stand out very conspicuously. It teaches us the great value of recording our observations. The man who goes through a medical practice without tangible records is very much in the position of the man who writes his name in water; his clinical experience is wasted; it is of very little value to himself and of absolutely no value to posterity. If the Doctor has not taught us anything else, he has impressed upon us the great value of recording our experience.

So far as the scientific aspect of the paper is concerned, I am absolutely incompetent to discuss it. Being more interested in another department of work, naturally my attention has not been attracted to these laboratory examinations. However, I draw an inference, and that is, that in those substances which are formed in the intestine by the action of the intestinal flora, it is probable that indican either exists in larger quantities or is more easily discoverable than the others, or that the presence of indican is indicative of more significant changes. I do not know which of these is true, whether indican is present in greater quantities, is more easily discovered, or is of greater significance. The action of the intestinal flora is probably more mysterious than any other phenomena associated with pathological conditions. Some three years ago I heard Prof. Wm. H. Welch deliver a lecture in Baltimore upon the subject of intestinal flora, and my deductions from his remarks were that we knew very little about the action of the intestinal flora.

There is one thing exceedingly interesting in

connection with these organisms; that is, the ease with which the constitutional immunity against them can be destroyed. It is one of the hardest propositions to explain that, while under certain conditions these organisms can be absolutely non-pathogenic and are really welcome guests in the intestinal canal, under slightly varied conditions they become such venomous poisons. An exponent of that class is the bacillus coli communis, which is innocent and innocuous when fair weather prevails, but let a little cloud appear, the slightest arrest of the fecal current, or the slightest interruption of the circulatory current in the wall of the intestine, and he becomes a deadly enemy to his host.

We are compelled to deal with the subject of auto-intoxication as with some vague, spiritualistic affair that we know very little about, but I believe the time is at hand when we will be considered no longer scientific when we use that broad, comprehensive term auto-intoxication; that it will be expected of us to know what kind of intoxication it is, whether from the indol, from the colon bacillus, or what. I believe work along the line Dr. Askenstedt has indicated will serve to solve that problem, and when it is solved, we will be in better position to intelligently apply our intestinal antiseptics.

J. Rowan Morrison: Like the other gentlemen who have spoken, I think this is one of the most valuable contributions the society has had for a long time. Dr. Askenstedt has not only given us advanced theories about indicanuria in auto-intoxication, but he has given us the result of his own personal observations, and has made comparisons showing the ratio of urea and indican in the nitrogenous output.

This subject of auto-intoxication is very important. I was informed to-day by a man who has just returned from Europe, that while over there he had seen Mr. Lane remove fourteen colons for constipation: the colon seems to be looked upon as a thing of no account in the human economy. I cite this just to show you that men are beginning to consider this question of intestinal intoxication very seriously.

A great deal of laboratory work is now being done along the line of working out the different forms of auto-intoxication. We know that indican does not exist and does not show in the urine unless we have putrefactive bacteria. We know there are certain things that will regulate this; that the character of food will influence not only the indican, but skatol and phenol, and the rest of the aromatic substances, the principal ones being indol and skatol, which form largely in the lower portion of the small gut, and phenol, which forms in the big gut. We know that the condition of the intestinal wall has a good deal to do with the absorption of these things, and the rapidity of the outflow of the

intestinal stream has a good deal to do with the amount absorbed. We now also that the amount of harm that will be done, as far as the intoxication being felt by the system is concerned, is influenced by the liver and, thyroid, and other glands which are anti-toxic bodies. If a big dose gets through the gut and into the liver, and that organ cannot control it, and it goes into the system's circulation, then we have the severe headache, the other symptoms of chronic auto-intoxication which makes the patient feel so badly.

The essayist has taken up only the subject of indicanuria. A person may not have indican, and still have a lot of skatol and other products, all of which are much harder to recognize.

In regard to what Dr. Hendon has said, as to our being able to tell the character of the intoxication, this subject is being studied very closely now in an effort to differentiate between enterogenous auto-intoxication, from the gut, and hepatogenous, from the liver, and many experiments are being made. For the ordinary man, however, these laboratory methods are entirely too complicated to be practical.

There seems to be several ways of relieving auto-intoxication. First, along the line of modifying the food, cutting out the proteids as much as possible, because we know the action of the bacteria on the proteids is what causes these poisonous products to form. Then there are claimed to be certain substances which prevent or retard the action of the putrefactive bacteria in the intestinal canal, such as lactic acid, the yeast, which is recommended by some as highly destructive to these different forms of putrefactive bacteria. I have noticed that when these patients are put on a carbohydrate diet, with buttermilk or clabber, they seem to do very much better; the symptomatology seems to improve markedly. Another thing which I think has a very important part in the treatment of this condition is washing out the gut, by either castor oil or calomel from above, and enteroclysis from below. Immediately following purgation, the bacteria will greatly increase, but the next day, or in two or three days, a marked diminution of bacteria will be noted. In all these cases I usually give the patient a good dose of calomel or castor oil, and then a dose of castor oil once or twice a week; or, if the patient cannot take the oil, I give them a blue-mass pill. Then the colon is washed out every morning, not with a high colon tube, but by placing the patient on two or three pillows and taking a gallon or two of water and washing out the gut thoroughly, and then put them on a carbohydrate diet with buttermilk.

This is a field that is not thoroughly tried out, but it is one that will bear a great deal of investigation. There certainly seems to be some-

thing in the carbohydrate and milk diet for these patients, for the reason that people who live in the country and eat a good deal of this character of food seem to have less of this trouble than those who live in cities and are heavy meat eaters.

Vernon Robins: I have enjoyed listening to this interesting paper. Those of us who know Dr. Askenstedt, know him to be an enthusiastic clinical worker, and his experiments are particularly timely, although they do not lessen our interest in lactic acid ferment in bowel conditions. It only serves to make us more enthusiastic in future work along this line, trying to overcome these conditions that we so frequently find.

Chas. G. Lucas: I have attempted to do some work along this line, and I have found that where there has been a reduction in the acidity of the urine, a large amount of indican is present. Also, in many cases of dilatation of the stomach, where I was confident a large amount of indican would be found in the urine, the reverse has been the rule.

For the past three years I have used a test for indican which I have never seen mentioned in any of the text books. It is known as the Gurber test. Equal parts of urine and hydrochloric acid are used with about four drops of osmic acid. This extracted through chloroform will show a blue color. I would like to know if Dr. Askenstedt has ever used this test or knows anything about it.

R. A. Bate: In going over the various conditions in which indicanuria exists, I did not hear the essayist mention pancreatitis. As well as I remember, this is one condition frequently presenting indican, and we could naturally expect it to be so, since in pancreatitis there is present the undigested meat fibre so frequently described as characteristic of the stools of pancreatitis. It is possible that this may suggest the reason why the lactic acid treatment is not successful.

I remember having observed indicanuria in a case of Addison's disease. This occurred some years ago and I have forgotten some of the fine points of the test, but I remember that some little confusion resulted in attempting to differentiate between urobilin and indican, both of which are present in the urine. I would like to ask Dr. Askenstedt if it is possible to fix the amount of indican under these circumstances.

I believe that the correction of almost all diseases dependent upon lack of balance of the various secretions, must be brought about by correcting, or perhaps artificially supplying the secretions that are deficient, and it seems to me that the pancreatic materials offer the greatest help along this line.

Dr. Askenstedt (Closing): I have not very much to say in closing, except to thank the

members for their kind consideration of my paper.

I think it was Brieger, who said that he found phenol increased in certain gastric conditions when there was no increase in indol; but, as a rule, we find them pretty close together—where one is increased the other is also.

By the use of cathartics we can eliminate a great deal of indol and other putrefactive products, but we must remember that this is followed by a reaction, so that there will be less peristalsis afterward than there was before; and it is a question whether we can maintain the patient's strength as well under the frequent use of cathartics. I believe washing out the gut is better. By cleaning the colon out thoroughly and removing all these putrefactive masses, there will be less indican in the urine and less tendency to constipation than where this is done with cathartics. I had under observation, for some time, a patient who took an enema every other night, and on the following day less indican would be found in the urine. This continued for eight or ten days, but after that there was no difference in the amount of indican. I did not care to report this case because I thought the reduction in indican might be considered a coincidence, since it did not continue, but it made me think that the colon douche had the effect of reducing the indicanuria.

In regard to the lactic acid tablets, I am of the opinion that they lose their vitality very quickly. I tried to make a culture from one of them in nutrient bouillon, and did find some germs, but so few that I concluded they were a part of the tablet of which too large a quantity had been used. These tablets were not old; they were obtained from a wholesale house in New York, and were as fresh as it is possible to obtain them.

In regard to pancreatitis, we know that the presence of trypsin in the intestine is necessary to convert the proteids into tryptophane before we can have any indol; consequently, in pancreatitis, where the secretion is entirely arrested, we cannot expect to have much indicanuria.

In regard to Dr. Bate's remarks, I would say that, if my test is used, the uroerythrin would not interfere with the detection of indican. The uroerythrin is red in color and, while any of the ordinary qualitative tests might be rendered purple by it, and also discolored by uric acid, bile, or albumin, when present, this would not be so with the test employed.

The test with which I worked out these records is one which I completed about a year ago. I believe it will give as accurate an estimate as the Jaffi or Obermeyer quantitative test, for no test for indican is absolutely accurate; and it has this advantage: it can be done with two test

tubes, three solutions, besides chloroform and alcohol, and in fifteen minutes' time; whereas the others require at least an hour and a half and laboratory equipment. This test was published in the New York Medical Journal last month. I have had reprints made, and if any of you will give me your cards, I will be glad to forward you a copy.

CLINICAL DEPARTMENT.

PUERPERAL ECLAMPSIA.

By GEO. L. POPE, LOUISVILLE.

In presenting this case, which is only one of a number seen by me in the last several years, and treated along the lines I shall indicate, I hope to bring out a most important point which seems to have been overlooked or neglected by writers and investigators. I believe all have commenced with the pathological condition presented at death instead of during life, and all have arrived at about the same conclusion, i. e., that it is a toxemia; but they have thought the cause of the toxemia to be a faulty liver, kidney, brain, central nervous system, uterus, placenta, an enzyme or what not. I have believed for years that the cause was to be found in constipated bowels with all its resultant auto-infection. It is not an unfamiliar sight to see men, women and children who *are not* pregnant die from these toxemias, with *all* the clinical symptoms presented by the pregnant woman. Recent reports of post-mortem examinations of women who have died of puerperal eclampsia but confirm me in my opinion. It may be, and most likely is, that the Gravid Uterus has a contributory cause by its mechanical pressure, greatly assisting in a portal engorgement, causing hemorrhages in and around the portal spaces, which could easily be done because of the vitiated condition of the blood and the marked diminution of the red and white blood cells. We know that toxico-enteric troubles will poison the blood, destroy its vitality and render it as noxious as can be, and it, because of its condition, in return destroy the usefulness of the eliminating organs and frequently destroying them beyond a reparative degree. For instance, the port wine appearance of the urine, bearing a load of broken-down, red blood corpuscles, epithelial cells, broken-down epithelium, sometimes albumin, sometimes actual blood and other debris, coming through the Tubuli Miniferi, which has been denuded of its epithelium, and offers no farther stay to these products of decomposition. The headaches may be either anaemic toxic or hemorrhagic, since the condition of

the blood will warrant either cause. The dropsies, when they occur, are to my mind, due to anemia. I am of the opinion that if the pregnant woman would consult her physician frequently and the physician would see to it that her bowels were evacuated perfectly each day, we would hear less of this most dreadfully dangerous disease called Puerperal Eclampsia, for the want of a better name. Acting upon this theory of a toxemia caused by faulty elimination of the bowels, I have given very little drugs to control or to try to control the spasms, never having seen any of them do any permanent good; but with all haste compatible with safety to mother and child I proceed to evacuate the bowels and uterus as rapidly as possible; and let me say here that one can, as a rule, evacuate the uterus many hours before he can the bowels, and at the same time disinfect the bowels to prevent further absorption. For at this stage absorption takes place at a very alarming rate, and to this end I give one grain of calomel and ten to fifteen grains of Lactopeptine every hour, not paying very much attention to the number of doses, only to sandwich between every seven or eight doses an ounce of castor oil, or sometimes by means of the colon tube deposit as high as possible a pint of warm water carrying an ounce each of Epsom salts and glycerine. During this time of medication, I use my best efforts to evacuate the uterus, and the means depends upon the case.

The clinical case. You will have to draw on your imagination to make this clinic pass muster, since neither the "patient" or her "bedside" is in your presence.

On November 9, 1909, about 12 o'clock, noon, I was called by Dr. C. T. Pope to assist him with Mrs. W., white, age 23; strong, robust; primipara between six and seven months advanced in pregnancy, who was seized with spasms during the previous night. I found a firmly contracted os without a semblance of an action of the uterus. We introduced a No. X soft catheter its full length into the uterus, tamponing it there with cotton, which was done through a speculum; ordered a powder containing one grain of calomel and ten grains of lactopeptine to be given every hour. The lactopeptine was given for several reasons, to change the mild into the strong chloride of mercury, to insure absorption and to allay vomiting. At 3 p. m. we found nice firm pains and an os dilated to about the size of a fifty-cent silver piece. From then on we mechanically dilated the os and stimulated contraction by means of our fingers, until 6:15 p. m., when she was delivered of a live boy baby.

Previous to 12 m. Nov. 9th she had nine

convulsions; between 12 m. and 8:45 p. m. she had six more. At 12 m. she was relieved per catheter of four ounces of urine of a port wine color and thickness. At 1 p. m. she was given one grain of calomel in conjunction with ten grains of lactopeptine, and every hour thereafter until ten doses were given. At 12 m. temperature 101 F., pulse 100, respiration 27.

At 6:15 p. m., baby delivered.

At 8 p. m., temperature 102, pulse 112, respiration 28; last convulsion.

November 10—12:30 a. m., temperature 101, pulse 106, respiration 26; patient very restless, tossing to and fro.

At 6 a. m. patient given one ounce of castor oil.

At 8 a. m., small, thin, dark brown defecation; two ounces dark port wine urine, per catheter; still very restless.

At 9 a. m. gave one-half ounce of infusion of digitalis and twenty grains of acetate of potassium; repeated same every two hours until fourteen doses were given.

At 10:30 a. m. patient given one ounce of castor oil; restless and some delirium.

At 2 p. m. an enema of one pint of warm water, one ounce each of glycerine and magnesia sulphate was given through a colon tube; result, large, loose, very offensive defecation; temperature 99, pulse 80, respiration 22.

At 3:30 p. m. large, loose defecation.

At 4 p. m. large, loose, very offensive defecation.

At 4:30 p. m. micturition per catheter, 12 ounces.

At 9 p. m., large, thin defecation. Patient still restless and talking at random; temperature 100, pulse 80, respiration 26.

November 11, 1 a. m.—Very restless; large thin defecation; micturition per catheter, ten ounces; temperature 99, pulse 80, respiration 24.

At 10:30 a. m., micturition 20 ounces; temperature 99.2-5, pulse 90, respiration 26; slept quietly about ten minutes.

At 2 p. m. micturition, six ounces; slept quietly about one hour; medium large loose defecation.

At 7:30 p. m., large thin defecation; micturition.

November 12, 7 a. m.—Nurse reports bowels moved and kidneys acted well during the night; temperature 100, pulse 96, respiration 24.

At 10:30 a. m. the patient complained of aching all over; gave one tenth grain of calomel in combination with three grains of quinine bisulphate every three hours for forty-eight hours. Temperature began to drop after second dose, gradually going down to normal,

never getting above normal after twelve hours of calomel and quinine medication; perspiration, which heretofore was entirely absent, became profuse; bowels and kidneys became very active; urine became normal in all respects and continued so. She was discharged on November 17th as cured.

It would have been a revelation to many physicians to have seen the enormous quantities of fecal matter discharged by this woman during the eight days of illness.

DISCUSSION.

Frank Fleischaker: I had a case of puerperal eclampsia last Sunday in which the treatment was a little different from that of Dr. Pope's. This woman was delivered Friday, at noon, and had no convulsions until about seven o'clock that evening; in fact, no history was obtained. It was an emergency case, and when I saw her for the first time she had a great deal of oedema of the extremities, reaching from the toes all the way up to the head. No urinalysis had been made and the woman had not complained of anything except some pain in the back, which was natural for a woman in labor. She was a primipara. Between seven and eight o'clock Friday evening she had six convulsions, one right after the other. These were controlled by the use of chloroform, morphine, atropin and veratrum viride. I do not remember whether the veratrum was given by the mouth or hypodermically. Two hypodermics of morphine were given within fifteen minutes of each other. I saw her about eight-thirty that evening, at which time she had not had any convulsions for half an hour. I suggested catheterization and withdrew twenty ounces of urine, which was immediately examined and found to contain albumin. I also advised the administration of two minims of croton oil, as I believe this is better in the beginning than calomel. A hot pack was applied, after which she broke out into profuse perspiration. I advised against the use of pilocarpin, because her pulse was so weak and of low tension. She passed a very good night and the next day calomel was given in one grain doses until about five grains had been taken, followed by saline. She has had no more convulsions and her temperature is normal and pulse good. This is the first case I have attended in which convulsions followed the birth of the child with no symptoms of any sort before labor.

Edward Speidel: I congratulate Dr. Pope upon the outcome in this case. However, I can hardly indorse his statement that the sole cause of eclampsia is the absorption of toxic material from the intestines, although there is no doubt that stereoraemia is a very important factor in the

causation of eclampsia, as is also the fact that all other eliminative organs are faulty in this condition. Neither can we lay it entirely to the mechanical effect of the uterus. It is now recognized that hyperemesis gravidarum is an earlier manifestation of the same toxæmia that produces eclampsia. Although in both the early and late manifestations the attacks either cease or become very much milder after evacuation of the uterus, it cannot be held wholly responsible for the condition.

It has not been definitely determined just what is the cause of eclampsia, or the toxæmia of pregnancy. It is known to be due to some poisonous substance circulating in the blood, but what that substance is has not been learned.

G. A. Hendon: It gives me pleasure to bear out Dr. Pope's statement in regard to the case in which I was jointly interested with him and Dr. Lammers. My own interest in the case terminated upon my accomplishing a forcible delivery which involved a high forceps operation. It also gives me pleasure to confirm the Doctor's statement in regard to the outcome in the case.

G. L. Pope (closing): All that Dr. Speidel has said I am sure is true. He might also have said that no one has been able to learn where this toxæmia comes from, whether from the liver, kidneys, brain or anywhere else, and it is just as reasonable to suppose that it comes from the constantly constipated bowel as anywhere else. We know that constipation long continued will produce toxæmias and symptoms very similar to those found in puerperal eclampsia.

Another thing in regard to post-partum eclampsia. I have seen the spasms continue just as rapidly and just as hard for hours after the uterus had been evacuated as before, so it would seem that evacuation of the uterus alone does not relieve the symptoms by a large majority.

Of all bowel evacnants, I do not believe anything will take the place of calomel. Calomel is not only a cholagogue, attentive, disinfecant, and bowel evacnant, but it is a germicide, also. I have given as many as thirty grains of calomel in thirty hours, with nothing but good effects, and I do believe it is good treatment in these cases; of course, taking advantage of other bowel evacnants also. If necessary I like to stimulate the kidneys as much as possible. An infusion of digitalis and acetate of potash will whip up the kidneys unless they are so far gone that nothing will do them any good.

As far as chloroform is concerned, I have not seen any good results from it. Now and then we do stop the spasms with it, and sometimes we can relieve the delirium; but, as a rule, they always get well under thorough elimination.

TUBERCULAR APPENDICITIS.

BY F. M. WALKER, LOUISVILLE.

The history of this case is positively of more interest than the case itself.

The grandfather of this patient contracted tuberculosis of the lungs in his early manhood, but, by giving up business for a year and taking a several months' ocean voyage and spending the rest of the year in the country, he regained his health. Later on in life he had several attacks of what must have been appendicitis, judging from the description obtained, and died during an acute attack (possibly rupture of the appendix) while riding on a train.

The father of this patient died at the age of 65 of a kidney complication, but if that had let him alone for two or three years he would have died of tuberculosis of the lungs, because he had one of those slow, chronic cases.

The patient himself, a man forty years of age, has for the past fifteen years been employed in a clerical position, taking practically no exercise. For several years he has been the subject of general tuberculosis. He would take no advice and, owing to his thin anaemic condition, was always making up the fire and kept the windows of his room tightly closed. In July, nineteen months ago, he developed what was at first thought to be an attack of painter's colic. He was at that time working in a bank which was being re-finished inside. He went to bed for a week with nausea, pain, elevation of temperature and general soreness, not referable to any particular portion of the abdomen. This lasted some two or three days, and in a week he was up again. About a month later he suffered another attack, more pronounced, and this time the pain was located in the right lower quadrant of the abdomen and he presented symptoms of appendicitis. I thought it desirable to operate on him, but he was suffering from one of the worst forms of hay fever I have ever seen. For twenty years he had been going to Michigan about the first of August and staying there about six weeks. The time for his usual journey was at hand and I wished, by all means, to get him into shape to make the trip and have operation done when he returned, hardly daring to put him to be on account of this other trouble. About ten days after this he developed a third attack which was entirely too severe to be disregarded. One feature of this attack was that he complained of bladder symptoms, an intense dragging pain, as he said, as though an automobile were running over it, and he could not lie on his right side. I at once put him on treatment for his hay fever,

and obtained excellent results from one which I had never heard of being used before; that is nargol, a two per cent. solution instilled into the nostrils. It really worked like a miracle in this case. After the second or third application he went through the entire month of August and September without a symptom of hay fever.

I called in Dr. Hendon and had the man removed to the infirmary for operation. The appendix was found attached to the bladder with an abscess on the tip of the appendix. It was impossible to get it away without rupturing the abscess or injuring the bladder wall. Beyond that there were very few adhesions. Of course, it was removed and darinage instituted. The operation was done in the latter part of August and the patient lived until March, when he succumbed to general tuberculosis. The wound never entirely healed, a small fistula tract remaining. The bladder symptoms, which had bothered him a great deal, cleared up after the operation.

I neglected to say that the urine was examined prior to operation, but no light has thrown on the bladder condition until the abdomen was opened.

The history of the case makes us stop and ponder the question whether or not tuberculosis is hereditary.

DISCUSSION.

G. A Hendon: I feel obliged to Dr. Walker for the opportunity of seeing and operating on this case.

The symptoms that really were most conspicuous was the bladder symptoms. This man presented an almost typical chain of symptoms of acute inflammatory condition of the mucous membrane of the bladder minus the changes one would expect to find in the urine under those circumstances.

Dr. Walker has given a very descriptive history of the case and of the various attacks the man had. He was exceedingly thin and very much below par in his general condition, and we were very loath indeed to operate on him on account of this hay-fever complication. When the abdomen was opened the appendix was readily located attached to the bladder, and buried in an abscess which was typically tubercular and below the peritoneal surface. The serous surfaces of the intestines and omentum were studied all over with tubercles, which we are all familiar with in conditions of this sort. We put a drain in this abscess, but it is a question in my mind whether that drain should have been introduced. It might have been more satisfactory and more comfortable for the patient if the drain had been left out and a fistula allowed to form by adhesions between the coils of intes-

tines and the parietal peritoneum. We are all aware of the fact that drains introduced into abscesses, when intraabdominal, promote the formation of sinuses which do not heal if tubercular. The greatest discomfort this man had was due to the constant discharge from his sinus sometimes fecal in character and sometimes purulent, which persisted until his death.

Louis Frank: This case very beautifully illustrates the fact that, in the male, tubercular peritonitis often arises from infection in the appendix. I look upon this as a case of tubercular peritonitis, with the primary focus of infection in the appendix, and I want to call attention to the frequency of tuberculous lesions in the male in which the point of entrance is the appendix. We find in the female, the infection arising most often from the uterine appendages.

Dr. Walker (Closing): I do not believe anything else could have been done in regard to this sinus except what was done, on account of the low vitality of the omentum and the surface of the intestines. You could not put the rubber of a lead pencil down without touching a tubercle; there was not a section an inch square that did not contain a dozen. The tissues were in such condition that I do not believe a healing process would ever have taken place.

THREE RARE SPECIMENS OF FIBROIDS OF PELVIC ORIGIN.

By WM. H. WATHEN, LOUISVILLE.

I will exhibit three specimens of fibroid tumors arising in the pelvis, which illustrate rather unusual conditions. Two of these patients are now in St. Anthony's Hospital and one has just left it.

The first specimen is a large ovarian fibroid removed from a single woman, fifty years of age. It had existed for many years without any positive diagnosis being made. By vaginal examination no hard tumor could be detected, as it was lying entirely above the true pelvis and extended up under the ribs on the left side. It was apparently an enlarged spleen and was believed to be such until the abdomen was opened. At first I suspected Leukemia, but upon careful blood examination by Dr. Karl Weidner, Jr., the leucocyte count was found to be only 10,000, red blood count 3,750,000, hemoglobin 65. (Tallquist Scale), excluding this nature of disease. The abdomen was opened about an inch to the left of the median line and, to my surprise, I easily dislodged this large fibroid tumor, with no adhesions. It developed within the left ovary and had a small pedicle. In the same patient I found this small tumor, the nature of which we have not yet determined. It was removed from the end of the omentum. It is

a metastatic growth. But whether malignant or benign I do not know. I found a cystic tumor larger than a child's head in the right ovary, with intra-cystic papilloma, in which positive diagnosis as to malignancy or a benign condition cannot be made without a painstaking pathological examination. This woman, I believe, will remain perfectly well, for the reason that I have had quite a number of these cases of intra-cystic papilloma of the ovary and papillomatous ovaries with no cyst, where the mass was as large as a child's head with the abdomen full of fluid, and they all recovered and remained well. This I consider to be a similar case.

The next specimen is a fibroid tumor which I removed to-day from a woman about 30 years of age. She had not noticed any tumor until about three weeks previously, when she was suddenly taken ill with elevation of temperature, rapid pulse and tenderness over the abdomen. When I saw her a few days before operation, the tumor extended almost to the naval, and I diagnosticated fibroid tumor, with what complications I did not know. When the abdomen was opened the tumor presented, covered with dark-colored omentum, which was adherent to it anteriorly and on both sides. It was easily brushed off with gauze. In putting my hand under the tumor to dislodge it from its position, it was thrown out of the abdomen in ten seconds. Its color was so dark that I thought possibly it might be a haematoma, but upon examination I found that it had a little pedicle, about half an inch in diameter, and there was hemorrhage from the posterior central part of the uterus, showing that the tumor was a subserous fibroid that had become pedunculated. The pedicle was so small and the blood vessels so constricted that it could not contain life, and it would probably have destroyed the life of the woman had it not been for the protecting influence of the omentum. On the left side, in front of the Fallopian tube, I enucleated this small fibroid tumor, which is perfectly free of degenerative changes.

Case three. A few days ago I operated on a woman from a neighboring town, with a hard mass pressed down in the pelvis, which could not be dislodged, and I expected to have a difficult operation: but when the abdomen was opened, upon pulling up the tumor, I saw to the right a very small uterus. The woman was about sixty years old. I then discovered that the tumor was an intraligamentary fibroma, separated an inch or more from the uterus, with no uterine attachment, but covered by thin peritoneum. It had risen in the muscle fibres of the broad ligament. The peritoneum was cut around and the tu-

mor enucleated without any trouble, making a very simple operation.

These specimens represent conditions that we seldom meet, and which were expected to be difficult operations and turned out to be very simple.

DISCUSSION.

August Schachner: I think it is unusual to see such a number of rare tumors; for instance, fibroid of the ovary we know is a very rare form of ovarion tumor. I have operated on two such cases. One is reported in Dr. Howard Kelly's work, in which the tumor weighed fourteen pounds. In the second case, which I operated on about three years ago, the tumor weighed two or three pounds. One peculiarity of both of these tumors (and I think it is rather characteristic of fibroid of the ovary) was that they had very long pedicles. What the Doctor says the tumor having been taken for a spleen corresponds with my own experience in the last case I had. In that case the tumor could be moved above the umbilicus. In both cases the tumors were very easily removed.

The first case is doubly interesting because of the condition found on the opposite side. That is quite unusual. According to Mr. Sutton, Papillomatous tumors of the ovary are on the border line of malignancy.

The second specimen which the Doctor presented is also interesting. These subserous fibroids are very distinct tumors and they seem to have the power of migration; they move away from the site of their origin. One case of subserous fibroid was referred to me by Dr. Ganz. It apparently had no pedicle, but, upon splitting the peritoneum over the tumor and pulling it out, with it came fifteen inches of the urethra. I carefully separated the urethra from the tumor, replaced it, put a few stitches in, attaching it to the tissues in the neighborhood, and closed the peritoneum. No trouble followed and the woman made a good recovery.

PECULIAR BONY TUMOR SPRINGING FROM THE ASTRAGALUS.

By J. GARLAND SHERRILL, LOUISVILLE.

This young man, twenty years of age, was referred to me from a town in Indiana. A skiagraph was made, which showed that the tumor probably sprang from the astragalus, and extended back across the foot beneath the tendo-Achilles muscle; it did not seem to spring from the tibia or fibula. It was rather prominent, somewhat like a small egg on the inner side of the foot beside the astragalus. The patient developed this growth following an injury five years ago, and suffered another injury about two years ago. The fact that the growth had not increased in size

during the past two years led me to believe that it was not a sarcoma, although a study of the skiagraph warranted that diagnosis. It was removed on Wednesday of last week, by an incision just back of the internal malleolus. Upon pinching away the tendons and soft tissues, the tumor was found to be simply a prolongation of the astragalus. I attempted to chisel it out, and did separate a portion of the bone, as you will see here. Then we came to some tissue which had the consistency of very firm cheese, and yet it did not look like the caseation which takes place in tuberculosis. I have not yet received a report of the microscopical examination of the specimen, and cannot say positively what it is. It looks very much like a sarcoma, but it may be tubercular, with an overgrowth. If it is the latter, it is very interesting. I did complete extirpation of the astragalus, and so far the case has gone along without incident.

GALL STONES.

By GEO. A. HENDON, LOUISVILLE.

I have a case to report and a dry specimen to show. The history is as follows:

This woman, 69 years of age, began to complain about five years ago of symptoms referable to the kidney and bladder. These symptoms were frequent and painful micturition. About six months ago she developed a large tumor in the right hypochondrium and consulted a physician, who made the first analysis of the urine that we have any record of. It showed quite a large quantity of pus and albumin, and the daily output to be very large. I examined the patient's abdomen and could locate this tumor by palpation. It appeared to be as large as a cocoanut and could be carried about over the abdomen in quite a wide range of excursions. There was no pain connected with it. The amount of urine passed in 24 hours was eleven pints. It contained large quantities of pus and albumin, had a foul odor and was alkaline in reaction. No fever present; no blood ever discovered in the urine; no symptoms referable to the digestive tract. There had never been any colic of any character. The abdomen was opened without definite diagnosis having been made, and the tumor was readily discovered to be an enlarged gall-bladder, with adhesions to the ascending colon. In the separation of these adhesions the gall-bladder was ruptured and quite a large quantity of pus discharged, with two stones.

There is nothing interesting about the specimen; the only interesting feature of the case is the history. Since the operation the kidney and bladder symptoms have disappeared.

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EDITORIAL.

CONGRATULATIONS TO THE PROFESSION AND PEOPLE OF KENTUCKY.

The General Assembly adjourns just as the JOURNAL goes to press and we only have time to announce that, thanks to an united profession and its lay friends, and especially to the brother devoted physicians in the Legislature, every one of whom is a member of his County and State Society, every measure for which the profession stood and pressed, was passed by a practically unanimous vote. The annual appropriation bill of \$30,000 and the \$10,000 annual appropriation for a hospital for incurables have already gone into operation without the approval of the Governor, while the Vital Statistics bill and the Abortion are still in his hands. There will be much to say of the individual members, lay and medical, and of the friends who contributed to our success, but for lack of time this must be postponed until our next issue. It suffices to say that far more was done to protect the health and lives of the people of Kentucky by this Legislature than was ever done in all the history of the State, and that if we continue to prove worthy of it the possibilities of the future are without limit.

"NEW AND NON-OFFICIAL REMEDIES."

The new edition of "New and Nonofficial Remedies" for 1910 has just come to hand. To our readers who are familiar with the epoch-making work of the Council on Pharmacy and Chemistry of the American Medical Association this work needs no introduction. The volume before us is handily bound, well indexed, and no physician who

uses drugs in his practice can afford to be without it. If you will send twenty-five cents to the Journal of the American Medical Association, 535 Dearborn Avenue, Chicago, it will come to you by return mail, and supplements will be sent to you from time to time, without additional expense, keeping it up-to-date.

PURE FOOD AND DRUGS.

It is a pity that every physician and druggist in Kentucky cannot have access to the reports of the United States Food and Drug Bureau so that he could keep in touch with the splendid work being done under Secretary Wilson's direction by Dr. Wiley and his associates. Fake cure-alls and adulterated drugs are being exposed and their perpetrators punished almost daily. Equally as important is their splendid work in protecting the national food supply. It is a matter of regret that every department of governmental activity can not have at its head such a man as Dr. Wiley.

A. M. A.

The attention of our readers is especially called to a recent editorial in the *Journal of the American Medical Association* on the policies and work of the Parent Body. This editorial is an official comment inspired by recent resolutions adopted by the Council of the Chicago Medical Society and rescinded the following week. This announces that it is the beginning of a series of editorial articles which will attempt to explain to every well-wisher of the profession the character of its work and its workers. These things have been kept tolerably well before the profession of Kentucky, and the National Organization has always received its united support, and this JOURNAL voices the sentiments of its owners in cordially commending the poli-

ey of the *Journal of the American Medical Association* in frankly publishing everything in regard to its policies which will be of interest to its humblest members, as it is upon the membership that the responsibility rests for its every action. Under its Constitution the American Medical Association is a democratic body, and every member who chooses to do so has a voice in the control of its affairs through his duly elected representatives.

Dr. Simmons, we enjoyed reading your editorial, and trust you will follow it with many others as interesting and illuminating.

MALPRACTICE.

Few members of the medical profession of Kentucky seem to understand that during last year four physicians threatened with unjust malpractice suits were saved, not only from the expense and worry, but from the blackmail of these suits, by the Medical Defense Branch of our own Association. It is easy for the general practitioner to reassure himself by saying that a *surgeon* is likely to have such a suit, but he is safe. All four of the suits last year affected general practitioners! One was for Colles' fracture; one in the alleged mistake in a diagnosis from small-pox, and one for sudden death during an electrical treatment. These or similar incidents may be misconstrued by professional damage suit lawyers to the detriment of any physician in the State any day. Several hundred of our physicians have already secured defence against such an outrage by joining the Medical Defense Branch. There can be no real objection to joining it, and it is difficult to understand why every member of the Association is not also a member of this branch. The initiation fee is \$5 and the dues \$1 each year. If you, my dear reader, are not already a member, do you not think it would be well to send \$6 together with your county and State dues to your secretary right now?

TO OUR SUBSCRIBERS.

Under the postal laws this is the last issue of the JOURNAL which will be mailed to any of our subscribers, whether members of county societies or not, who have not paid their subscription for 1910. If you are delinquent please send your subscription to your county secretary or the JOURNAL office by mail to-day.

SCIENTIFIC EDITORIALS.

THROMBOSIS.

Surgery of the vascular system is today claiming the chief attention of research and clinical workers. There is no field of surgical endeavor that holds out such alluring prospects as does that of blood vessels. There is no other territory so much of which remains to be explored. Since it has been demonstrated that blood vessels can have their function suspended temporarily and operative procedures involving their lumen instituted and their function restored and a vast storehouse of inviting possibilities is unlocked. Since it is made evident that wounds in arteries as well as veins may be sutured with absolute security, the realm of surgical therapeutics is expanded beyond the most sanguine predictions of surgeons of one generation ago. We now stand upon the threshold of an era in which the ancient injunction relative to pus will apply with equal imperativeness to thrombus. When a thrombus exists, locate it first, then evacuate it. J. B. Murphy, in a recent issue of the *Journal A. M. A.*, reports and illustrates a case in which he removed a clot from the common iliac artery and passed a catheter up into the abdominal aorta.

For many years aural surgeons have been removing infected thrombi from the sigmoid sinus and internal jugular vein, and Dr J. B. Richards, of New York, records the successful removal of a clot from the Torcular Herophili through a lateral sinus. Trendelenberg has recently removed, without saving life, however, clots from the pulmonary artery in two patients. He showed by a successful operation on a calf that the procedure was a feasible one.

Thrombosis of the mesentery has, so far, not been attempted that I am aware of, but it only remains for some one of good diagnostic skill to recognize the condition in its inception and by prompt and accurate movement to anticipate a pathology which in nearly every instance destroys the life of its victim.

The incidence of post-operative thrombosis may be gleaned from the following statistics:

At von Eiselsberg's clinic in seven years there were 6,871 operations; 263 lung complications, 57 were embolic affections.

W. H. Morley, from the clinic of Gynecology and Obstetrics, University of Michigan, reports 1,756 operations in gynecology and 11 cases of thrombosis. In 6,000 cases of labor thrombosis is reported to have occurred 23 times, or 14 per cent. of the cases; as a complication it most frequently follows operations upon the uterus and adnexa, chiefly

after the removal of large fibroid tumors. The femoral, epigastric and pelvic (iliac) veins are the ones most frequently involved. The left side is affected with astonishing preponderance of frequency over the right. J. P. McMurrich examined 107 common iliaes with a view of determining the cause of this predilection for the left side. He found in his series 35 cases of adhesions between the vessel walls, 32 were on the left side and 3 on the right. This anatomical formation is at least significant when considered in relation to the existence of thrombus in the veins of the left side. Numerous causes are stated in connection with thrombi, viz., (1) Alteration of the intima due to trauma. J. G. Clark thinks that thrombi following abdominal section begins in the deep epigastric from the effects of manipulations and extends thence to the iliac. Of course, other influences than trauma may effect the intima, as sepsis, either conveyed in the blood stream or penetrating the vessel wall from the outside. (2). Changes in the rate of flow incident upon stagnation and varicosities, also gravity. (3). Changes in the constituency of the blood. (4). Alteration in the elastic cast of the vessel.

As an operative complication thrombosis occurs with peculiarly distressing nature. It appears at the moment of granulation, usually from the tenth day to the fourth week when all terrors are thought to have been past. I shall ever hold in vivid remembrance a personal case following in the fourth week after the removal of a large fibroid of the uterus. The patient, on the very eve of departure from the hospital, was stricken in the night with a sharp pain behind the knee: then came the dyspnoea feeble pulse, which grew perceptibly faster and finally death in a few hours from sheer want of breath. The process of thrombus formation is interesting to contemplate. The clot grows in a proximal direction. I believe, until the very main stem of circulation is reached; the vena cava or aorta, as the case may be, i. e., unless the life of the victim is cut off by pulmonary embolism or cerebral infarction.

I once treated a man whose arm had been lacerated in a battle with an infuriated stallion. A thrombus was in the brachial artery and extended without interruption into the subclavian, which I was able to trace at the operation (amputation at the shoulder joint.) The man died the next day of acute sepsis, but no autopsy was obtained and I was not permitted to justify my belief that the thrombus extended into the aorta.

Multiple thrombosis I regard as a good term to apply to that septic occlusion noted in connection with gangrenous appendicitis and other violent infections of the abdominal

cavity in which we see all vessels of smaller calibre, even the capillaries and arterioles and venules corded with a purulent thread and spread out fan shape and converging toward the central stem of the mesentery. The demands of therapy could here be best answered by designating the main source of blood supply to the thrombosed area and dividing the same, after ligation, in the healthy part of the vessel. This procedure would not deprive any of the tissues of circulation because already the openings are closed and it would arrest the progress of pus formation toward the arterial and venous trunks.

The surgical treatment of thrombosis resolves itself into two propositions: (1) Remove the clot through an incision in the vessel wall if there is reasonable hope of restoring the function of the vessel. (2). Or ligate and divide the vessel proximal to the clot. When easily accessible the infected vein or artery may be dissected out as is sometimes done with the jugular in sigmoid thrombosis.

GEORGE A. HENDON.

PRECIPITATE LABOR.

An abnormal condition can only be properly understood by comparison with a normal one, and so in considering this form of dystocia the forces concerned in ordinary labor must first be reviewed.

Obstetrically speaking, at the time of labor, the uterus is divided into two parts, the area of expulsion, and the area of resistance. The upper part of the uterus, that portion whose boundary is at the level of the internal os and which is marked on the anterior wall by the reflection of the peritoneum on to the posterior wall of the bladder is the area of expulsion. It is about at this point also, that we find the circular ring of muscular fibres that at times contracts spasmodically, causing an hourglass contraction of the uterus, and known as the contraction ring of Bandl. All the area below this point on the uterus, is known as the area of resistance.

The muscles of the abdominal wall and the diaphragm also aid in the expulsion of the child in the second stage.

The fetus itself during labor is a passive object of resistance in so far, that there are no fetal movements in the course of the labor and the fetus consequently need only be considered in the light of a compact body, which must be forced along the maternal passages to effect a delivery.

The bony structures of the pelvis with their lining of muscular structures and the muscles and fascia of the perineum and ostium vagina, with the lower segment of the uterus, furnish the area of resistance.

When all of these forces are nicely balanced, then we have a resulting normal labor. When there is any abnormality in one or more of the forces concerned, then we have a dystocia.

When the forces of expulsion are excessive, then we have a rapid or precipitate labor, but in such instances we generally have in addition lessened resistance or an unusual elasticity of the outlet. Although this condition is most frequent in multiparae, still every obstetrician will meet with a number of cases in which primiparae with only a few sharp pains and in a very short time give birth to a full term child, without a laceration of the soft parts. In such cases the birth generally occurs suddenly and before the arrival of the physician and the patient's escape from a serious laceration can only be ascribed to an unusual elasticity of the muscles of the perineum.

Such cases should be borne in mind in considering the medico-legal aspects of these cases. In cases of suspected infanticide, especially if associated with illegitimacy, it must be remembered that the sudden descent of a child during a labor and the resulting pressure low down in the pelvis, will always result in an irresistible desire on the part of the woman to go to stool and if under such circumstances the infant is expelled into a privy vault, the woman should at least have the benefit of the fact that she may have suffered a precipitate labor, if it can be proven that she gave little evidence of being in labor a short time before such an occurrence.

It should be a rule in the conduct of all labor cases, that when there is a sudden change in the intensity or the frequency of labor pains, that the patient be put to bed, even in the first stage. This is an especially important instruction to the nurse in the absence of the physician.

If the fetus is suddenly expelled with the patient in the upright position, then the child may strike its head and die from a fracture of the cranium. The umbilical cord may be torn and as a general thing not in its continuity, but flush with the abdomen, and in the absence of the physician or without proper suture material at hand for such an emergency it may bleed to death. The sudden jerk on the placenta, may separate it in whole or in part and lead to a furious hemorrhage, that may quickly exsanguinate the woman, and if the placenta is torn under the circumstances and a portion unconsciously left in the uterus, it will lead to a later sapremia in the puerperium.

Under some circumstances the placenta will

hold firm, but the uterus will turn inside out resulting in an inversion of that organ.

Under a precipitate labor, the uterus rarely acts properly, even in the third stage. On the one hand, the placenta may be expelled just as suddenly as the fetus, by a severe pain, leaving an exhausted and relaxed uterus that must be watched anxiously by the attending obstetrician for fear of a post-partem hemorrhage, or the flabby uterus containing the placenta refuses to contract and long delay and even manual removal of the placenta may follow.

With the physician in attendance, it should be possible to control the pains to such an extent at least, that but little harm comes to the mother or the child. The patient should be put to bed and if in the first stage, a hypodermic of morphine should be administered. Under no circumstances should she be allowed to arise for micturition or defecation, especially in the second stage.

After the membranes have ruptured, she should be placed in the left lateral position, first of all because in this position she cannot use the abdominal muscles to enforce the labor pains, secondly because with the full exposure of the perineum that is secured by this position and with the aid of other measures, the physician should be able to safely control the exit of the child from the maternal passages, without serious damage to either the mother or the child. Chloroform should be administered to the patient in amount commensurate with the intensity of the pains. In addition the patient should be cautioned not to bear down, but to keep her mouth open and cry out during a pain.

After the birth of the child the physician must guard the fundus of the uterus continuously until the placenta is expelled and the uterus is firmly contracted. It is now the custom to wait a half hour in a normal labor before practicing the Crede method of placental expulsion. In precipitate labor, it is well to wait a considerably longer time to give the uterus a chance to regain its tone, then when the placenta has been expelled, a hypodermic of ergot should at once be administered.

The physician cannot safely leave his patient until the uterus is firmly contracted and shows no tendency to sudden relaxation. If it does not promptly respond to the influence of the ergot, then it is safest to resort to intra uterine and vaginal gauze packing to prevent a perhaps fatal post-partem hemorrhage.

EDWARD SPEIDEL.

ELECTRICALLY LIGHTED INSTRUMENTS.

No procedure that is directly lifesaving in its application can fail to be of interest to the general medical profession—as much so, in fact, as to the man whose province it is to develop and practice such procedure.

The recent development and practical perfection of electrically lighted instruments for the purpose of searching for and removing foreign bodies lodged in the larynx, trachea and bronchi, as well as in the oesophagus, falls in such a category.

While former years had witnessed sporadic attempts on the part of various operators to develop such instruments it remained for our own time to witness the consummation of this dream.

It remained for the genius and untiring efforts of two men, one a German, Prof. Killian, of Freiburg, the other an American, Prof. Jackson, of Pittsburg, to place the methods on a firm foundation where they now stand.

Other men, it is true, have lent their efforts to the perfection of these instruments, among the Americans, Mosher, of Boston, and Ingals, of Chicago, but the first two stand pre-eminently to the fore.

The instruments consist essentially of a series of steel tubes of various sizes appropriate to the several organs with a collection of forceps, coin catchers, safety pin closers, etc., necessary in the work.

The essential difference between the instruments of Killian and Jackson consists in the fact that the Killian instruments have a strong electric light attached to the part of the instrument nearest the operator after the manner of the Schall Urethroscope and the light is reflected down the tube whereas the Jackson instruments have a small cold lamp carried by an auxilliary tube and light carrier at the distal end of the instrument.

Both instruments have their disadvantages and advantages. The Jackson lamps are prone to burn out at a critical stage of the procedure or become dimmed by blood or secretion, while in the Killian instruments the reflections are sometimes disturbing and the operator's sense of depth disturbed.

All of these objections, however, can be largely overcome by careful attention to the technique and experience. The superiority of the new method over the old is so decided as to leave no room for contention.

Under the old method some of the cases now relieved would have been beyond the possibility of surgical relief; others at best were but a guess or chance in the dark or subjected the patient already weakened and

in a bad condition to an extreme surgical procedure.

Under the new method the procedure is practically an open one under the sense of sight. All of the oesophagus and a large part of the stomach is susceptible of examination, while the larynx, trachea and the bronchi up to the second bifurcation have been explored.

Nor is the method applicable alone to the extraction of foreign bodies, but is equally valuable for the diagnosis and localization of new growths, ulcers and other pathologic conditions in organs previously beyond our reach.

The chief drawback at present is the expense of the instruments considering the infrequency for their use at this stage, but as the boundaries of the method expand, this will be largely obviated.

The technique is quite complicated and trained assistants necessary in most cases and these facts will prevent the occasional operator from acquiring familiarity with the method.

Yet, with all that, the method is a signal advance over the old and in fact may be ascribed as one of the great achievements in surgical technique.

As the method grows in popularity we see a constantly broadening circle of disciples and operators from all over the world are contributing their mite of experience.

The writer recently had an opportunity of demonstrating this method at a clinic at the University Hospital.

The patient, an infant of two years, had swallowed a nickel, which had lodged in the oesophagus behind the clavicles, remaining in place six days. Swallowing of anything but liquids and those in small quantities was absolutely prohibited.

A lateral oesophagotomy was considered before a trial of the new instruments was made, but the coin was removed with but small difficulty notwithstanding the oedema from the long stay of the foreign body and the patient made uninterrupted recovery.

Several other cases of foreign bodies in the larynx and trachea have likewise been removed by the writer under the new technique where removal under the old way would have been extremely hazardous and difficult.

It is possible to use both local and general anaesthesia in this method, though the general anaesthesia is, as a rule, preferable. The operator will be guided largely by his experience and by the indications present as in other surgical cases.

It should be needless to add that in foreign body cases a careful localization of the body by the X-ray is not only desirable, but even

an absolute necessity for careful and intelligent work.

To epitomize: The method may be said to be like knowing how to swim or to shoot straight—you may never have the occasion to display your accomplishment, but if the necessity should ever arise, you need it and need it bad.

SURGERY OF THE BRAIN.

Technique. This phase of the subject is, of course, varied with the character and location of the lesion. There are some fundamental principles, however, which apply in brain surgery everywhere. We will, therefore, notice those first which have the widest scope. Preliminary aseptic precautions, of course, prevail. In *Surgery, Gynecology and Obstetrics* for March, 1908, Cushing has this to say of preparation: "It is, I believe, a fairly universal custom to have the patient's head shaved and treated antiseptically in the ward on the day before the operation. Some even advocate a double preparation of this kind. This, I consider an unnecessary precaution, if not positively unwise, for the patient is apt to pass an uncomfortable night and even with the most expert shaving, the scalp is likely to be a little sore the morning of the operation. In something over 350 craniotomies, I have never seen an infection, even a superficial abscess, and have ceased to regard the chance of sepsis as a possible complication of these operations. It is our custom, without previous ward preparation, to have the hair clipped and shaved just before the operation, a duty incumbent upon the surgeon himself. After a double shaving, once with and then against the direction of emergence of the hairs, there may be a preliminary cleansing of the scalp with green soap and a soft brush, the head then being wrapped in a towel wrung out of a warm bichloride solution. The final preparation is deferred until after the anesthetic."

This method is somewhat at variance with that employed by Hartley, who advises that the head be shaved 24 hours before the operation, and Chipault's measurements made and recorded and marked with a Fuchin's pencil on the scalp just before operation.

Position of Patient, naturally should vary according to the portion of cranium to be invaded, but in all cases an elevation of the head of the table of from 15 to 30 degrees is essential for its effect on blood pressure and hemorrhage. The position desired should be achieved before the patient is anesthetized, because time is thereby saved and the antiseptic fortifications will not become disar-

ranged as in moving about. To maintain desirable positions, flat sand-bags answer the purpose extremely well. Frazier has devised a special table for cranial surgery, and Cushing has added an outrigger and shoulder support for use when it becomes desirable to place the patient in the prone position. The prone position becomes imperative for cerebellar work.

Control of Hemorrhage. The best way to control hemorrhage is to prevent it. This can be very effectually done by the elevation already referred to. The bleeding from the scalp can be controlled when it is possible to encircle the head with rubber tubing proximal to the field of operation. Hemorrhage from the bones of the skull is controlled by various time-honored methods, such as wax and sterilized shoe pegs and match sticks driven into the open mouths of the vessels. To lessen the chance of hemorrhage, subtemporal operations may be conducted through a split muscle incision. Murphy advised ligation of the external carotid as a prophylactic measure.

Opening the Vault of the Cranium. Here again men differ. Hartley uses "the motor saw and guard osteotome drill, fraise and measure."

The original instruments as used by Wagner, who devised the osteoplastic flap, were mallet and chisel of bayonet point. The same kind of tools were adopted by Keen, who could groove the skull with remarkable speed. Knister has recently devised a chisel for the same purpose. Toison, in 1891, suggested dividing the bone between trephine openings with a chain saw. The Gigli saw was substituted later. We have also the biting forceps of De Vilbiss, Dahlgren and Montenovesi. This class of instruments have the advantage of cutting from within out and therefore are sure not to injure the dura or cortex and transmit no jar to the brain. There are electro motors of numerous patterns which drive cutting instruments of different design, such as burs, trephine and circular saws, such as Van Arsdale's, Powell's, Moreland's, Doyen's, Cryer's, Sudeck's and Sykes'. In *Surgery, Gynecology and Obstetrics*, Vol. VI, page 233, the following description by Cushing appears: "In the Doyen type of motor there is a long flexible arm between the motor and the revolving tool which is thus driven from a distance, as in the usual form of dental engine. Borchard (1906) has made some desirable modifications of this apparatus, and Berent (1904) and Hartley (1907) the great improvement of having a cutting tool directly connected

with the motor, which weighing only eight or nine pounds and being capable of sterilization is itself held in the operator's hands. Hartley has also devised new forms of perforators with serrated edges." Bryant (*Annals of Surgery*, Aug. 1908.) describes a motor of 3-10 horsepower, weighing only seven pounds, having the following specifications: 3 phase; 10 volts; 15,000 revolutions per minute; 185 cycles; 2 poles; diameter 2 1-8 inches; length of barrel, 9 1-2 inches; weight, 7 pounds, 5 ounces. Can be readily held in the hand, thus eliminating gearing and shafting; can be used to drive a drill, a bur, or a fraise to cut an osteoplastic flap, or a trephine; will not cut soft tissue and can be sterilized, according to the inventor.

The Stellwagen trephine has found much favor, especially with Philadelphia surgeons. It has recently been revised and improved by Wood. "One modification consists in the attachment of a handle to the end of the arm carrying the saw." With reference to motor driven tools it can always be charged that in their use safety is sacrificed for speed. Personally, preference is given to hand instruments for the reason just stated. In making the osteoplastic flap several perforations are made along the previously marked line of section and the spaces between are divided either with a De Vilbiss forceps or a Gigli saw. "The Gigli saw cuts from within out and with a very narrow slit, so that when the bone is replaced if the bevel is ever so slight it will rest upon the surrounding bone and not upon the dura."

The osteoplastic cranial flap marks one of the most notable advances in modern surgery, relieving the operation upon the head of the opprobrium of a defect in the vault. The statistics of Bunge and others show the sequelae of epilepsy and other cerebral disturbances to be far more frequent in cases in which no effort has been made to close the opening in the skull with its natural bony protection. Numerous other methods have been employed in the attempt to close trephine openings in the skull with bone, among which are the use of bone chips and replacing the button after immersion in normal saline. But the osteoplastic flap leaves nothing to be desired in this connection. In cutting an osteoplastic flap due consideration should be given to the source of blood supply; if possible this should be from the occipital or temporal arteries. On this account the flap is fashioned so the stem is toward the perion. The bone there is thinner and is broken with less difficulty. The size

varies with the purposes for which it is made. By means of the osteoplastic method large areas of brain can be explored, because the bony covering is restored. The general shape of the flap is fan like, but some operators adapt other shapes to different regions. For satisfactory adaptation of the flaps a careful neurological diagnosis is necessary, for which a thorough knowledge of cerebral localization is essential. The importance of cranio-cerebral topography is almost supreme. Hartley (*Annals of Surgery*, Vol. XL, P. 481) speaks of having used the Chipault method for eleven years and tested it upon 200 cadavers and 40 operations upon the living. From this rich experience he pronounces it "the most comprehensive and generally correct of all the systems." No one who is interested in this class of work can afford to overlook his article above referred to.

GEORGE A. HENDON,

BED SORES.

The presence of bed sores, indicates, as a rule, two things; a low state of nutrition of the tissues, possibly the destruction or cutting off of the nerves from their special centers, and a failure to appreciate the need of cleanliness and the avoidance of pressure. In some instances, even with the greatest care, with a studied endeavor to prevent them, they occur, because the slightest trauma or pressure provokes them. In some spinal and cerebral diseases, especially myelitis, they form with great rapidity and often times are well on their way before nurse and physician realize the possibility of their occurrence. The diagnosis of certain spinal lesions and the institution of therapy should from the start, include and endeavor to prevent, for here the "ounce of prevention" is worth more than forty pounds of cure.

The prevention of bed sores may be accomplished by (1) cleanliness; (2) stimulation of the circulation and retaining the blood in the part; (3) dryness of the skin; (4) smoothness of the bed clothes and (5) prevention of pressure.

Cleanliness is too plain a matter to be neglected. The parts should be bathed and cleansed, using soft cotton with little or no pressure. The part should be dried carefully by means of "patting," not rubbing. It is hardly necessary to say that the most frequent location of bed sores is upon the buttocks, lumbar and sacral regions; they may occur upon the heels.

The circulation may be stimulated by means of simple hydrotherapeutic methods, a number of which I have heretofore enum-

erated. The best form of application is that of alternating hot and cold applications applied several times daily. "The thermic applications in alteration, stimulate the circulation, improve nerve action and prevent infection. The application is best made by the alternating of the compress, wrung out of water at 130° to 160° F., allowing it to remain on for about a moment and then replacing by a compress at 60° to 50° F. for a few seconds" (1). The hydrotherapeutic application may be made immediately after the skin is cleaned and the parts dried as above described. After the parts are dried, the nurse should cover them thoroughly with talcum powder, or what is by all odds the best, zinc stearate, containing ichthyol, balsam of Peru or tannic acid. As is well known, when properly applied, stearate of zinc will prevent the parts becoming moist. The parts that rest upon the air cushion should be also included in the treatment.

The nurse should see that the bed clothing is kept smooth, and this applies especially to the sheet under the patient. It should be drawn taut and if it has a tendency to slip, a second sheet may be pinned to one side, passed under the mattress and pinned to the other side with safety pins, thus holding the sheet in position and smooth.

Prevention of pressure is an art, and may be accomplished in a number of ways. The skillful nurse can obviate a great deal of pressure by the use of pillows under and around the body. The air cushion well fit, has served me on a number of occasions and I can speak highly of its advantages. A small point in its use should be borne in mind and that is not to "blow up" the cushion too tight.

Of course, a water bed is the ideal method for preventing pressure. Scrupulous care should be exercised in taking care of all discharges from the body, as these are frequently the starting point of trouble, owing to their decomposition, the moisture they carry, and the constant risk of infection.

If, in spite of all that one can do, and this will occur, bed sores form, it is my habit to clean them thoroughly with soap and water, clipping away all the dead flesh and removing any purulent matter by means of peroxide of hydrogen. Let me here call your attention to the fact that peroxide has a tendency to devitalize tissue and should be used carefully and cautiously, washing the parts afterward with warm sterile water. I have had a good deal of success when I "fed" the bed sore. This is done by making an application of some beef preparation, the best of which I have found to be bovinin. A pledget of cotton, just the size of the sore is

wet with the bovinin and placed in position; over this a larger piece than the area involved, of oiled silk; some soft cotton is placed over this, and over all a bandage *broad enough not to make any pressure* upon any part of the sore. The sore is dressed once daily and I have seen graulations from rapidly under this method. Hydrotherapeutic treatment may be given as above in conjunction with this method, the beef dressing applied, the parts dried and those that are not sore rubbed gently with alcohol or alcohol and alum; and the balance of the tissues rubbed with the stearate of zinc. One application daily is sufficient.

The successful treatment of a bed sore will largely depend upon the nurse employed. If she is careful and can so handle the incontinence of the bladder and bowels that the tissues are not injured thereby a most excellent result can be attained. It should be borne in mind that bed sores are more likely to form in females on this account. It is not amiss to recall at the present time, the marvelous results obtained by Reiss with the continuous bath in the treatment of bed sores. The patient is immersed in a hammock in a large bath tub filled with water at a neutral temperature from 94° to 95° F., for a number of hours, or for all time, night and day. The great advantage of the continuous bath "is to be sought in the diminution or removal of cutaneous irritations which are under operation in the ordinary contact of the body with air and the resultant affect of this freedom, especially to the nervous system. The relief of pressure, the cleanliness obtained, together with the soothing effect that the continuous bath has upon the entire nervous system" (1) is the explanation of why such excellent results are obtained. It is to be regretted that physicians are not in a position in this country to more frequently resort to the neutral bath, for its use in burns is without an equal.

CURRAN POPE.

Clinical Importance of Phimosis.—Witzenhausen reports four cases to sustain his assertion that phimosis is an important cause of internal affections in boys. Greater attention should be paid to it, as it is liable to induce severe intestinal troubles, especially obstinate constipation and its consequences. The injurious effects of the intestinal trouble may leave an indelible impress on the organism and interfere with normal development even long after the phimosis has been corrected. In one case the child had been under medical care for a long time, but the physician had overlooked or disregarded the phimosis; all disturbances vanished at once after its correction.—Munchener medizinische Wochenschrift.

ORIGINAL ARTICLES.

THE IODIDES MERCURY AND ARSENIC.*

BY G. J. HERMAN, NEWPORT.

The Iodides, Mercury and Arsenic; three sovereign remedies of positive therapeutic value.

These three drugs have been used by the medical fraternity for more than fifty years, empirically, and why? Simply because they have given very gratifying results in the hands of men that know. I dare say they are prescribed oftener than any other drug in the pharmacopea when we are sure of our diagnosis, and sometimes when we are not.

At no time in the history of the world has medicine been richer in solidly grounded experimental and clinical facts than it is today.

We hear much of empiricism, the stigma of medicine as an art, but as Huxley once said: "All true science begins with empiricism, though all science is such, exactly in so far as it strives to pass out of the empirical stage."

What man among this body of medical men gathered here to-day would presume to assert that the Iodides and Mercury in syphilis, quinine in malaria and arsenic in pernicious anemia are useless; yet skepticism is in the air, even in this society, if any daring member has introduced a subject bearing on medical treatment of disease, it has been with an apologetic air and humble mein, well knowing that if his remarks had any reference to the utility of drugs in the treatment of disease, they would be subject to good-humored banter and received by those sitting in the seat of the scornful with amused incredulity.

May we not be dealing with an unwarranted prejudice against drugs rather than with ignorance? Again, is it not among the best informed men of our profession that drug nihilism prevails pre-eminently?

We all know, for example, that mercury is curative in syphilis, but how this is accomplished, it is impossible to say.

Another mainstay in many diseases is iodine, not only the haloid proper, but its salts.

Hare writes: "The physiological action of iodine so far as its alterative powers are concerned, is absolutely unknown." The brightest star of later-date therapeutics and the greatest life-saver of children, antitoxin stands not a whit higher.

H. C. Wood, after reviewing the more familiar theories of its action including Ehrlich's theory, says: "It must be confessed that we have no positive knowledge of the manner in which this substance acts in diphtheria."

A remedy is still given because it has been found more or less efficacious in this or that condition by others, and the subdivisions headed treatment and therapeutics in our text books are mere catalogues of drugs which are stated to be particularly useful, most efficient, very valuable, commonly employed, of great value, etc., in this or that disease, and which not an inkling is afforded as to how the remedy antagonizes the morbid process.

The iodides, mercury and arsenic are pre-eminently alteratives and tonics according to their dose, and to interpret intelligently the physiological action of alteratives and tonics an accurate knowledge of general metabolism, the foundation of nutrition is necessary. What is known of this subject consists mostly of guesses and gaps.

As the animal cell is essentially chemical in its functions it is evident that many of the conditions which we regard as diseases must be attended by definite, if not demonstrable chemical disturbances. The due recognition of the chemical nature of such disturbances would gradually suggest the clue to the appropriate treatment. Therapeutics therefore becomes essentially a chemical problem.

The mission of this paper today shall be to submit an outline of the newer conception of the action of these drugs.

I shall lay special stress, however, upon a conclusion which appears of capital importance, that we should look to the internal secretions and the auto-protective mechanism of the body, and the laws through which the drugs influence them, for scientific therapeutics, and how they reinforce the defensive power of the organism.

Granting that these remedies are capable of doing this, we still remain in the realm of empiricism unless we can ascertain how they act, how, in other words, the blood is caused by certain drugs to attack and destroy both germs and poisons.

How then does any agent enhance the defensive powers of the body? Are we supplied with a mechanism which enables us to ward off disease, and I believe we are; a mechanism whose activity we can enhance at will, and I believe we can; and that it is built of a set of small organs regarded as the producers of internal secretions, but the function of which had remained obscure.

This auto-protective mechanism includes

*Read before the Kentucky State Medical Association, October 19-21, 1909.

the pituitary body, the thyroid gland (including the parathyroids) and the adrenals which jointly form what has been termed the adrenal system.

I shall confine myself mainly to the action of the iodides, mercury and arsenic, upon the adrenal system. The pituitary body is one of those unfortunate structures which histologists and physiologists relegate to the waste basket as "vestigial organs" when they cannot explain its functions. It is fortunate in fact, that it is located below the brain, beyond the reach of surgeons, for there would have been a holocaust of pituitary bodies, just as there has been a holocaust of appendices, ovaries, etc., unless resort to surgery had been checked by the appalling mortality of such procedure.

The pituitary body governs the efficiency of our defensive mechanism, just as an engineer governs and controls his engine through the small throttle valve.

The most active antitoxigens in infections and intoxications include such drugs as iodine and mercury, known as alteratives, the physiological action of which, we have seen has remained obscure.

Thyroid preparations are very active in this connection, since they provide the blood directly, with an excess of opsonin to sensitize the bacterial toxins and other poisons.

At the same time by exciting the adrenal center, they incite the production of the genesis of phagocytic leucocytes, but it has been proven conclusively that the thyroid preparations become inert when the iodine they contain is abstracted.

Iodine and the iodides act in the same way, but they provide less opsonin, since they only supply the thyroid and parathyroids with the main agent which enables these organs to increase their productions of this sensitizing body.

They are far less active in this particular than mercury, though they compensate for it in a measure by exciting more actively the adreno-thyroid center, thus enhancing oxidation.

Mercury is also well known in this connection as the wide-spread use of calomel attests.

Its salts acts by exciting powerfully the adreno-thyroid center, thus providing the blood more evenly, as it were, than the two preceding agents with all its defensive constituents. Their well known action on the liver, since this is the organ in which the antitoxic process is more actual, and in infections, especially syphilis, is due to this property.

The solvent property attributed to alter-

atives is readily explained by the action of the opsonin of the thyroid secretion, which they directly or indirectly add to the blood, the increased inflammability of the phosphorus contained in morbid products, gum-mata, for instance, rendering them more amenable to the digestive action of the auto-antitoxin.

This property when exaggerated becomes a source of danger, when too large doses of either of the above remedies are given, since the red corpuscles may then undergo dissolution, observations borne out by the familiar terms hemolysis and autolysis.

Iodine or mercury is a double-edged sword and as much harm as good can be wrought by their promiscuous use.

Again we have seen fever is due to a more or less marked increase of the auto-antitoxin in the blood, but if it exceeds 105 F. to any great extent, the bacteria are not only dissolved, but the red blood corpuscles are exposed to dissolution.

By way of illustration, I shall cite you the great benefit accruing from the use of iodine in puerperal sepsis, in which disease it is almost a specific.

In a comprehensive paper published in the *New York Medical Journal* of June 23, 1904, Dr. Wm. R. Pryor, gives his method of using iodine in the treatment of these cases. This is what he says: "Most of my material is brought to me after other measures have failed to relieve. In not a single case have we failed to find albumin in the urine, and many of the cases have presented grave changes in the kidneys."

The aim of the treatment is not only to combat the disease within the pelvis, but also to counteract the general infection.

This result is secured by isolating the infected uterus between masses of iodoform gauze, and by local and systemic iodism to destroy the streptococci.

The manner in which the gauze is prepared is of the utmost importance. The best plain gauze in 5 yard rolls is sterilized. It is then dipped into a 5 per cent. solution of iodoform crystals in ether. About one pound of the solution is sufficient for five-yard gauze. The ether is then allowed to evaporate. When dry the gauze has a pale blue tint, owing to the action of free iodine upon the starch in the cotton fibre. In this state the gauze is unfit for use. The gauze is then dipped into a hot solution of Mercuric Bichlorid one to 4000 and wrung as dry as you can by hand.

The bichloride acts as a fixing agent and the gauze becomes of a golden yellow, characteristic of the presence of iodoform. It is

also probable that the gauze contains a trace of the single iodide of mercury.

When the iodoform embraced in this dressing is brought into contact with a serous surface, its disintegration into its component parts is very rapid and its iodine becomes absorbed at once. The presence of inflammation in the peritoneum has no influence upon the process, even when a purulent effusion is present. He uses intravenous infusion of the normal saline solution, in large quantities, 5 to 8 pints and at a temperature of 110 to 115 in all cases either before or during the operation.

The cervix is thoroughly dilated and the uterus curetted; it is then packed with a 12 per cent. strength of iodoform gauze, a broad incision is now made and the posterior cul-de-sac is opened. In all instances there is an escape of either serum, sero-lymph, sero-pus or pure pus. The pelvis is now packed with a 5 per cent. strength of iodoform gauze. The pelvis is completely filled with this gauze. It is usually noticed that the specific gravity of the urine rises in proportion as the iodine is eliminated. He has never had an iodine eruption.

In 43 cases not previously operated upon, he had one death, a mortality of 2 per cent. Contrast this treatment with that of curetting alone, with a mortality of 22 per cent., antistreptococci serum mortality, 33 per cent., hysterectomy, mortality 55 per cent. and the let-alone treatment with a mortality from 7 to 25 per cent. Can the hysterectomist point to such a result? And can he who sits idly by and folds his hands, record such a mortality? Even though my enthusiasm may not be shared by you, I am not asking too much when I expect you to grant that these results can not be accounted for in any other way, than as the result of the action of iodine locally and systemically.

So much for iodine; it is a positive adrenal stimulant.

The mercurials are also powerful stimulants to the adrenal system, small doses being well known to act beneficially in a great many diseases outside of syphilis.

The recent rehabilitation of mercury in the treatment of tuberculosis coincides with the fact that for many years I have noticed the curative effect of mercury in diseases other than syphilis.

Wright says he has shown immediate improvement by administering mercury in cases of tuberculosis. The slowing of the pulse, the reduction of temperature, and the gain of weight.

He has conclusively demonstrated that it will cure extremely advanced tubercular ul-

ceration of the larynx and pharynx in a remarkably short time.

He has shown that it produces marked improvement in advanced pulmonary lesions and that it also has a decided beneficial action in tuberculous glands.

I wish to emphasize one fact in this relation, that all these brilliant results were obtained by hypodermic injection of small doses of mercury succiniodide 1-5 grain and less, every other day.

Large doses of mercury increase so actively the immunizing constituents of the blood, that the germs are not alone destroyed, but the red blood corpuscles and other blood elements as well. In other words the proteolytic or digestive properties of the blood become so intense that the blood cells and the tissues themselves are broken down.

I believe that Dr. Wright's method will suffer the same fate as that of his predecessors, if this important practical future is not borne in mind.

In considering arsenic and its salts from the viewpoint of this paper, I will say that its action upon the adrenal system is that of a depressant, that it inhibits their activity. Its action is contrary to that of iodine and mercury. Various others have come to the conclusion that because arsenic seems to have no direct effect in increasing the production of red corpuscles, its beneficial results must come from its specific action on the parasitis causing the disease for which it is given.

In a series of experiments in which J. H. Gunn, of England, mixed arsenic in suspension with blood corpuscles, the writer shows that the arsenous acid is fixed to the red blood corpuscles very rapidly and furthermore, it protects these corpuscles against the hemolytic action of distilled water. This is just exactly what it does when it is administered in the anemias. It protects the red blood cell from destruction, by reducing the hemolytic properties of the plasma.

Arsenic is a very dangerous remedy, if not used cautiously.

Municipal Milk Depots and Milk Sterilization.

—G. F. McClery (Jour. Royal San. Inst., London, 1905, Vol. xxvi, 224-239) concluded that each municipality should, by establishing its own dairies, provide pure, clean milk; that municipal milk should not be sterilized milk. Municipal milk should be supplied primarily to these classes of milk consumers: Nursing mothers; children over nine months; infants under nine months for whom breast feeding is impossible.

COAL TAR PRODUCTS, WHICH AND WHY.*

By WILLIS R. MOSS, CLINTON.

When I was notified that I had been selected to write this paper, I had to pinch myself to ascertain if it was really a fact, that I, an obscure country doctor, was selected to write a paper to read at the home of my Alma Mater before the great professors that this city can truly boast of.

I said, "I'll do it," not with any intention of imparting any great knowledge to them, but for a selfish reason, that it will inspire me to work harder, believing that I have a duty to perform in the great forward movement that has grasped the medical profession.

I ask you in all sincerity to bear with this meager effort on my part.

Coal tar products are too numerous to mention, but I shall only discuss three of the oldest and most important, those that have the antithermic property.

Acetanilid, the first of the antipyretics derived from coal tar, introduced to the profession in the early eighties by Doctors Kahn and Hepp. It was first thought to be a sheet anchor in all pyretic conditions and for a while was extensively used and much abused. It has a depressing action on the gray matter of the nervous system and a destructive action on the constituents of the blood. The former action, benumbing of the sensations, is ideal, but the latter is very detrimental. Therefore, here lies one of its great faults. This last action produces an anemia if persisted in and too heroic or too prolonged in administration produces hæmoglobinuria.

One of its peculiarities in hyperpyrexia is, if given on a rising temperature, the toxic effect is easy to control, and if given on a decline of temperature we may have the toxic effect to an alarming extent. This is a very important point to remember. We are all familiar with the toxic effects, namely, blueness of extremities, dyspnoea, shallow respiration, rapid weakened heart and many other symptoms indicating a depression of the circulation and nervous system.

There have been many reports of poisoning from this drug, especially from the non-toxic secret remedies, (see U. S. Bulletin No. 126, Bureau of Chemistry), but few fatalities, because of the ease of restoration. Were it not so and the timely aid of the competent physician, there would be a different story told.

In small doses its effect upon the medul-

lary centers, is to reduce the frequency and force of the pulse, depressed respiration by relaxing the blood vessels promoting the flow of blood to the surface, this lessening blood pressure. In larger doses, the effects are intensified to an alarming extent, as above described as most of you have personally witnessed on many occasions. It also has a cumulative effect, therefore, in administering the drug for several days an interval of a day should lapse for every three or four days administered. Evidently this has been the reason for some of the alarming effects and some deaths that have been reported. This untoward effect is reason enough that its sale by the proprietaries should be condemned by the profession.

I have been summoned to see several cases that were poisoned by acetanilid, purchased as harmless headache tablets, but comparatively few times have I had any toxic effects where I prescribed it, owing to the fact that the amount prescribed was small. Cases have been reported where enormous doses, as much as one drachm had been taken without toxic effect, and again very small doses, three grains have been administered with immediate effect.

Guardedly used, it is very efficient as an analgesic in neuralgic conditions, migraine, etc. As an antipyretic, leave it alone, for nothing can be gained in any disease, especially where the fever may be continued for a week or more, by destroying the constituents of the life-giving blood.

Antipyrine introduced to the profession shortly after acetanilid, which is a coal tar product, resembling acetanilid but chemically different, was first thought to be a most ideal antipyretic, but its great drawback lies in its untoward toxic effect. Why it should have such decided and pleasant effect on some and the reverse on others, I can't say.

I shall speak of it as an antipyretic only to condemn. Its antipyretic properties are said to be due to its action on the heart centers rather than to any influence on the circulation. It has a very decided toxic influence over the respiratory centers. In moderate doses it has no bad effect on the blood, but in over doses it causes an alteration of the hemoglobin into methemoglobin. There is no alteration in the corpuscle itself, but its continued administration leads to a diminution in number causing anemia. Its toxic action are rapid weakened heart, shallow respiration, dyspnoea, oppression in the chest. This undesirable action is one great drawback of which is undoubtedly the most efficient antipyretic and analgesic drug that has yet been produced.

In children, the tolerance of antipyrine is

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very good and diminishes as age increases, making it extremely dangerous in the aged. Although introduced as an antipyretic, it was soon found to be an ideal analgesic, in all forms of pain due to a neuralgic origin, such as migrain, dysmenorrhoea, sciatica. In renal colic it is of decided benefit. It is especially beneficial in asthma, relieving the spasms without lessening the secretion, as does morphine. It is very good in ovarian pains of the Neurasthenics. I will say any drug that will relieve a Neurasthenic of her many pains, deserves some recognition.

As a local remedy it has decided antiseptic properties and many of our proprietaries are placing it on the market and advertising it to be absolutely harmless, which is not so, and further it is a fraud perpetrated on the profession. It has undoubted hemostatic properties applied to bleeding surfaces.

Rightly used for the special indications, not for what it was lauded by the manufacturers, but from observations made by the honest profession, it holds a prominent place.

Phenacetin was manufactured and placed on the market a short time after Antipyrine, hoping the dangerous effects of the other two drugs had been eliminated, but really very little had been accomplished. They are all the same toxic effect. Its antipyretic power seems to depend on a decrease in the heat production and increase of heat dissipation through sweating evaporation. It is slow in action, requiring about three hours to have any decided effect, supposedly due to its insolubility and slow absorption. It also produces a change in the constituents of the blood, but much less than either of the other two mentioned, making it a more safe antipyretic. It does not have but very little benumbing effect on the gray matter of the nervous system, making it very inferior to either Acetanilid or Antipyrine as an analgesic. Its sudorific action is very marked over the other two, making it superior to either where elimination is desired through the sweat glands. In whooping-cough it has acquired a reputation affording great relief to the paroxysms and shortening the disease. Compared to Acetanilid and antipyrine, it may be said to be more pleasant and safe, but less powerful and slower in action and less certain.

SUMMARY.

There have been numerous other coal tar products all claiming to be superior to the above preparations. After due time, about all have been discarded by the general profession as having no special superiority over the older ones. In fact, if we would lay aside all but one, I care not which, and study when and where to administer it we

would find less cause to complain, for undoubtedly they possess a great deal of merit.

I intended to speak of the so-called non-secret preparations made from acetanilid and other coal tar preparations and advertised to the profession and we to the laity, but that has been well taken care of by our able journals.

Now, to get rid of this leech, the non-secrets, from our Clientele, there are many ways and 'tis high time we get busy, which I believe many are and have been.

Not long ago a large portly anemic gentleman asked me what made his nails and lips so blue, and why he could not get a good breath. He had been in this condition several days. I soon learned he had been in the habit of taking a tablet that was made and guaranteed by a prominent St. Louis firm, to cause no deliterious effect. They relieved him of his pains and also relieved him of his blood. He being a syphilitic and this tablet taking was the indirect cause of producing a total wreck out of him, which he is now. They kept him out of the hands of some competent physician until the disease had gotten into his brain.

Now, as to the Which and Why, will say I regard Phenacetin as the least dangerous, because it does not produce as much destruction of the blood constituents, nor does it mask the symptoms so completely by such marked influence over the medullary centers. And again, if we confine ourselves to its exclusive use we will use less, because of its shortcoming.

DISCUSSION.

G. G. Thornton, Lebanon: These papers are of too much importance, both to the specialist and the general practitioner, to let them pass without some discussion. The coal-tar products in times past have been very much abused, and at first they were not very generally used, but they have been used by practitioners more and more, as their physiological use has been understood. Let us take, for instance, acetanilid. Several years ago this drug was discussed in every medical society, and was used quite extensively. I have used it not only for its antipyretic effect, but also for its analgesic effects.

J. G. Carpenter, Stanford: I had a patient who took fifteen grains of acetanilid in about eight hours, but not by my prescription, but his wife said that she had some for relieving her headache, and he took it. His temperature went down to 92 1-2 degrees. He is still on earth. I gave him a prescription, containing nitroglycerine, and he soon recovered.

In regard to antipyrin, I think it is a dangerous remedy in most hands, but in nasal hemorrhage and where you have a tumefied mucosa,

in fifteen grains to the ounce it is a most valuable hemostatic, and where you do not want to use cocaine locally you can use antipyrin, fifteen grains to the ounce, and not have the unpleasant effects of cocaine constitutionally, and you do not get the constitutional effects of the antipyrin.

FAT EMBOLISM.*

By W. H. McCracken, Louisville.

This dog weighs about twenty pounds and such an animal would easily take two grains of morphine, which would keep him quiet. It shows the enormous vitality of the dog and how these animals stand drugs much better than human beings. I want to say that this dog has not the morphine habit. I speak of the use of morphine because it is rather surprising how it affects different animals. I have given a cat fifteen grains of it in successive hypodermic injections and, excepting for the fact that the cat evinced a strong dislike for my attentions and society, I was unable to discover that any particular effect was produced. Fat embolism is a condition that has been recognized as existing for several years, but comparatively little attention has been paid to it until quite recently. Now, it is being taken up more or less experimentally and it seems probable that a good many of the fatalities that have followed accidents may have been due in whole or in part to this cause. During the past year we have tried in the laboratory in the City of Louisville a number of experiments along this line producing fat embolism artificially, usually by the injection of fat into one of the veins of the neck. Sometimes we have used some other vein, as the femoral vein for example. The veins of the neck are convenient to get at. Of course, in these experiments and particularly in the one I hope to show you this morning, I expect to plug the capillaries of this dog's lungs with fat for the reason that in all dogs we worked upon we have never had a single recovery. We have found a surprising variation in the amount of fat that was necessary to produce immediate results. Occasionally, two or three drops of fat injected into the jugular vein will cause the animal to die instantly. Occasionally, even with a larger amount of fat the animal will live for several hours. For that reason I expect to use a very heroic dose of fat, because you do not want to sit here for several hours and watch this dog die. We have found that it makes considerable difference what form of fat is used. The ideal fat to

use in this case would be dog fat, but dog fat is a difficult proposition to have on hand for the purpose of administration. I expect to use lard oil for our work.

On autopsy we find more or less clotting of blood in the heart and we find the capillaries of the lungs in dogs that die promptly to be pretty well obstructed by the minute fat droplets. Fat and blood do not mix. If the dog lives for a few hours some of the fat passes through the lungs and through the heart to other parts of the system and by suction and with the use of osmic acid we can determine the presence of fat in the kidneys and in the brain particularly. So that we shall look especially in the lungs, the kidneys, and the brain for these manifestations. We can obtain them in this way.

In regard to the effect of fat upon the human being, it seems likely that the fat reaches the circulation in a number of ways. Perhaps the most common way is in the case of compound comminuted fractures. You must remember that fat as we see it ordinarily when we are performing operations is not fat as it exists in the tissues before they have been incised. As soon as you make an incision the temperature of the fat immediately drops more or less. The average person thinks of fat in the line of tallow, as a sort of semi-solid substance. They do not think of the fact that you can take a mass of adipose tissue at body temperature and squeeze the fluid fat out of it. Now it is not impossible in these cases of comminuted fracture for some of the bone marrow to be taken into the injured vein or forced into the injured vein, or it may be some of the subcutaneous fat may be lacerated and considerably broken up so that a sufficient quantity may be taken in to produce practically fatal results. Fat embolism is not always fatal. Doubtless, like tuberculosis and other things, the great majority of cases of fat embolism get well. We do not know that they occur at all in the great majority of cases. That is true of most pathological conditions. A patient who has a pathological condition is sick more or less, gets well, and we never know what was the matter with the patient. But you know it happens that when you go to see patients you have no idea what is the matter with them. Any man with an extensive practice has seen cases of fat embolism and has not recognized them and he was perfectly justified if he did not. Fat embolism is not easy to differentiate from shock. The symptoms are pretty much the same. There is this to remember, however, that in these cases of serious fat embolism there is respiratory embarrassment and that respira-

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tory and progressive embarrassment is one thing that may serve as a clew to help to differentiate one condition from the other. Speaking of laceration we come to fractures. It is true also that the condition of fat embolism has been produced at some time and on some occasions by the breaking up of adhesions, such as the bending of a stiff joint. Probably in a great variety of ways fat embolism has been produced.

One or two of the surgeons present spoke to me of cases that have come under their observation. So far as that is concerned, the question arises if you get a case of fat embolism, what are you going to do about it. I do not know. Some have advocated the use of amyl nitrite with a view to diminishing the peripheral resistance and dilating the calibre of the blood vessel. That, however, would also lower the blood pressure. The use of adrenalin chloride has been advised, but God only knows why. I am sure I do not know. I cannot see what possible advantage it can have.

It seems to me that covers very briefly the essential points of the situation.

I have here a jar containing oxygen. I am going to do a tracheotomy and we use oxygen so that the dog can have plenty of it to breathe. We also have here a manometer to show the dog's respiration and to show his heart-beat at the same time. I have here, as you see, a syringe containing fat and connected by means of a cannula with the external jugular vein. What I wish to do is to connect the respiratory apparatus of the dog with this jar, so that he will make a record on the surface of this smoked drum. I will now inject some fat into the jugular vein and what will happen remains to be seen.

I hope none of the surgeons in this audience will criticise by tracheotomy work. A physiological operation is entirely different from a surgical one. In our work in physiology one of the essentials is that we must not cut any more than we can help, but we must tear always so far as possible. I show you the record of normal respiration. I am going to try to show you this dog's heart is also beating at the same time. I shall now inject the fat and shall ask you to watch the effect. You will notice that respiratory failure takes place considerably before cardiac failure. I do not know very much about this. This work is not completed, but simply just begun. Of course, if it were complete we would not have anything to say. We do not know exactly all that takes place in this work and we are expecting to

continue it during the coming year and we may have something more to say a year from now. (Applause.)

THE DISEASED INFERIOR TURBINATE.*

BY W. B. McClaure, Lexington.

It is a fact well established that the turbinated bodies, about which there has been so much speculation during the last fifteen years, has to do largely with warming and moistening the inspired atmosphere, thus preparing it for contact with the delicate structures of the respiratory tract further on.

Owing to the fact that these important functions have been assigned to them certain persons have urged that these bodies should not be removed.

The same argument to my mind, could be used against the removal of any other organ of the body, for pathological reasons.

The fact is, I know of no other organ, which when diseased, produces so much disturbance as does the inferior turbinated body. It is often the foundation of an incurable catarrh, and is also the cause of a great variety of both nasal and post-nasal disease.

A truly hypertrophied lower turbinate, of necessity, produces mouth breathing with all of its attendant evils.

Then, finding this pathologic condition, with the results above described, what is our duty in the matter.

No one has yet discovered a medicament which will correct the trouble, and at best the only remedies at hand are palliative in character, and evanescent in results.

Then, I contend that the only thing left to be done is just what the surgeon would do when confronted with an incurable condition in any other organ of the body—remove it.

The operation of turbinectomy is so simple in execution and the results so satisfactory, that I wonder that we are so often tempted to temporize for a moment.

After satisfying myself that the hypertrophied condition is not an intumescent one, but a true hypertrophy my method of operation is as follows:

First, small pledgets of cotton, saturated in a 1-1000 adrenaline solution is packed well beneath and around the turbinal body; after waiting for about ten minutes this is removed, and a 10% solution of Cocaine is likewise applied.

The cocaine is allowed to remain for 12 to

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15 minutes, at the expiration of which time we have complete local anesthesia.

We are now ready for the surgical procedure.

After having tried almost all of the great varieties of instruments designed for this operation I have fallen back on the scissors as, in my hands, being best suited for the work in most cases. Of course, we occasionally meet with a turbinal body which lies so flat and close to the external wall, that the blade of the scissors cannot be introduced behind it and in these cases I use a very fine bladed Bosworth saw; but in my experience this condition is rarely found.

With a specially designed scissor, the blades of which are as small as it is possible to make them, consistent with the necessary strength required, I proceed to introduce one blade on either side of the body, then I notch the anterior end of the turbinate for half an inch in length, this I consider the most important step in the operation, for it frees the anterior end, which is most frequently bound down, and allows us to proceed with the second step of the operation with perfect freedom.

We now re-introduce the scissors with the notch as a guide and drive the blades home so as to include the extreme distal end of the body within its blades, and then with a gentle closure of the blades the body falls into the floor of the nostril.

The time occupied for the operation, after cocaineization, is less than ten seconds, without pain and with very little shock, contrary to results obtained after the prolonged and often painful use of the saw, spoke-shave or snare.

During a somewhat extensive experience in nasal surgery, I have never had an alarming hemorrhage following this method of turbinectomy.

I never introduce any kind of dressing into the nostrils and do not allow the use of a spray for at least 48 hours. I have rarely seen any of the disagreeable symptoms, such as a dry post-nasal chamber, etc., spoken of by those who oppose this operation.

On the contrary we can count absolutely on a free and open nostril and a greatly improved voice.

Cancer in the Chest Wall Originating in the Lung.—In the case described, a sarcoma in the pleura perforated the wall of the chest at two points and spread out in the subcutaneous tissue. The outer portion of this "shirt-stud growth" simulated a tuberculous abscess, as in 8 other cases on record. All proved fatal, and yet early operation may cure as in a case reported by Becker.

MODERN STOMACH AND INTESTINAL LORE.*

By R. M. RANKIN, M. D., COVINGTON.

Probably no branch of medicine has received more attention in the last ten or fifteen years than the diseases of the digestive tract, together with gall bladder and pancreas—the latter two being originally a part of the former. This attention has been given alike by surgeons and internists—stomach, duodenum and gall bladder sharing the surgeons' attention, intestinal digestive disturbances sharing the internists' attention. This has been fraught with results that have almost completely revolutionized the idea of aetiology, diagnosis, prognosis and treatment, in fact all authors of text books on these subjects declare that literature written prior to ten years ago ought to be destroyed. Formerly the idea universally prevailed that most digestive disturbances were due to a deficiency of secretions, especially of pepsin. Today the almost universal opinion of Gastrologists is that the contrary is true—that instead of there being a deficiency of pepsin, HCL, etc., increase of HCL—Hyperchlorhydria—is the usual fault, and that the amount of pepsin is almost without exception *present* in proper proportion to the amount of HCL. Hemmeter says he never prescribes pepsin. Hydrochloric acid, too, was at one time given almost routinely to supply what was thought to be a deficiency; now it is known and proven that the greater bulk of stomach symptoms arise from hyperchlorhydria. Therapeutically gastrologists limit the use of hydrochloric acid to-day to the two conditions—Hypo-chlorhydria and Achylia—the former a reduction in the amount of hydrochloric acid, and the latter complete absence of the stomach juices. Einhorn, of New York, one of the most zealous workers and successful researchers in gastrology, is the pioneer in the discovery and development of the facts pertaining to Achylia. There are three classes of cases: First—Patients without any subjective symptoms and enjoying perfect euphoria. Second—Patients with variety of symptoms and mild intestinal disturbances. Third—Patients with no gastric symptoms, but obstinate disturbances of intestines. The diagnosis can only be made by the use of the stomach tube. Some cases are of nervous origin. It is found often in cases of pernicious anamia, cancer, and chronic gastritis. Pathologically and physiologically it is still *supjudice*. Knapp, of New York, has very boldly, with reason and plausible argument, attached those who, by giving Ewald's test

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breakfast and afterward withdrawing and analyzing the stomach contents in one hour, make a diagnosis of achylia because of the absence of HCL, etc. He claims to have found these absent after one hour one day, and on the next day with the same test withdrawn the contents sooner, from one-quarter to three-quarters of an hour, and found them present. His theory is that insufficiency of the pylorus caused by previous overtaxation of the pyloric sphincter and the more perpendicular position of the stomach allows the juices per force of gravitation to empty sooner into the duodenum and that by proper treatment these cases can all be quickly benefited, and the majority cured. Some old country surgeons have made it a practice to examine the pylorus in every case at operation on the stomach, and in many cases find insufficiency. Hydrochloric acid benefits cases of hydrochlorhydria when the deficiency is slight, but theoretically, at least, the benefit must be little in complete achylia or when the deficiency is marked. It has been estimated that 720 grains would be necessary in assisting to digest an ordinary meal. What good, then, could be accomplished by the giving of ten to twenty grains after meals? Again the old theory that an acid applied to an acid-secreting gland would check the secretion has been disproved and forsaken. It is known that certain things entering the stomach cause an increase in the amount of secretion, and that certain others diminish or check it. Ulcers are attributed in largest part to action of HCL. on the mucous membrane, e. g., duodenal ulcers by their usual location are supposed to arise from the acid striking this part of the gut as it intermittently passes out of the pylorus. Anaemia and lessened resistance are still supposed factors. The pain from ulcer arises from the irritation of acid directly upon the sore. HCL., and not fermentation products, as is popularly supposed, is the source of most sour stomachs. Flint says of ulcer:—"Pain is rarely wanting. It is of burning or gnawing character, coming on directly or soon after eating and continuing until the contents of the stomach have either passed into the duodenum or have been ejected by vomiting. The *quickness with which the pain follows* the ingestion of food is a diagnostic point. The probable cause of the pain is the irritation of the ulcerated sore by the contact of the ingesta and the gastric juice. The pain caused by the action of the gastric juice is felt directly after eating, because the secretion of the juice is caused by the presence of food in the stomach." To-day it is known that the ingestion of food relieves the pain and that the latter, instead of occurring im-

mediately after food is taken into the stomach, does so from two to five hours after eating. This is proven by the leading surgeons of the world, amongst whom and standing in the forefront are the Mayos. They depend upon the history of pain occurring from two to five hours after eating, and the relief of this pain, when food is ingested and by the use of alkalies even more than they do individually upon either of the other three of their quartet of symptoms to guide them through the abdominal wall and on to the surgical cure of the ulcer. Recurrence of attacks or periodicity, time of occurrence of pain as before stated, the fact that the pain is relieved by the taking of food or administration of alkalies, and the long duration—one or two to thirty or more years—constitute the quartet of symptoms depended upon. Time forbids a discussion of the points in differential diagnosis between ulcers of stomach, ulcer of duodenum and gall stones. Suffice it to say, however, that experts miss it about one time in twelve, as demonstrated on the operating table by Mayos and others.

Ulcers of stomach occur in men and women with equal frequency. Ulcer of duodenum occurs oftener in men. Gall stones oftener in women. These facts are verified and noted by all surgeons with experience in operations on these parts.

Not so much progress has been shown with reference to cancer. The most important point being that very frequently it develops on the ulcer base. Mayos declare that about sixty per cent of these cases are so developed and support the declaration with microscopic evidence.

Interference with motility, stasis, detection of lactic acid, yeast cells, Sarcinae and the Boas-Oppler bacillus would probably be discerned early by up-to-date methods and procedures. In this connection must be mentioned the occult blood test. Dr. Franklin W. White, of Boston is probably the leading advocate in this country of its use and value. Like others, he admits that other sources of its origin must be excluded before it becomes positive or is of value. It must be found in successive stools for two or three weeks in order to determine cancer. Intermittency of occurrence in as many examinations says chronic ulcer. Dr. White claims that by the time the patient seeks medical counsel, damage sufficient for its appearance has taken place. Wm. Mayo in an article in February, 1908, says of blood in the stool: "Visible blood, unless it be in considerable quantity and of a tarry nature must be viewed with caution. Occult blood affords valuable evidence as to the fact that it is blood, but it should never be lost sight of that it bears

with it no indication as to its source. The patient may have bleeding gums, hemorrhoids, or slight abrasions in some part of the many feet of mucous membrane which exists between the lips and anus. If occult blood is found by one chemical test, it must be corroborated by others, as some unsuspected foods or drugs may give rise to error. As a matter of fact, hemorrhage from ulcer is by no means of frequent occurrence. The base of the ulcer is free from granulation tissue, so that bleeding may be slight and infrequent. Careful examination of the stools for many days may be necessary to detect its presence; quite the contrary to the condition in cancer *where occult blood in the feces will be found almost continuously.*" It is to be hoped that the advocates of this test are right, for no other means yet available afford the same possibilities for early diagnosis and therefore for successful surgical interference, which, as in all other parts of the body, must be done early to be successful. Age, careful and accurate anamnesis, expert analysis of stomach contents and occult blood test, etc. ought to detect cancer of the stomach early enough to allow it to be removed and cured as surely as cancer of the lip or breast. If this time has not already arrived, the not very distant future will bring it. It is true that errors in diagnosis would be made and dry hauls recorded, as the fishermen would say, but little disturbance and no damage is done to the water in a dry haul. Fish are caught on subsequent ones. In other words, make early exploratory laparotomies. Treatment of cancer before the patient is beyond hope belongs solely to the surgeon, or at least should belong to him. Unfortunately, however, the great majority of patients, even those of cancer age, and with other refractory persistent symptomatology are held on to for the money and business that is involved, until, alas, 'tis too late.

Of the other organic affections of the stomach only chronic gastritis need be mentioned and four clinical varieties of this are admitted and treated of by the various authors. The varieties are hyperacid, acid, sub-acid and an-acid.

Without exception the authors and specialists of repute declare that it impossible to make a diagnosis without the assistance of the stomach tube. Especially true is this of the differentiation of the different varieties. This is true because the subjective symptoms are so manifold and so frequently similar to those of other chronic affections of the stomach. The most important of all for purpose of diagnosis is finding of mucus. Conheim, quoting Boas, declares the origin of this mucus to be pharyngeal and oesopho-

geal, even the morning vomiting in drunkards. The amount of soot-stained gobs of mucus obtained from stomach contents withdrawn one hour after a test breakfast is astonishing. However, in an atmosphere such as Covington and numerous other American cities are burdened with it is easily differentiated from the mucous of stomach origin. It is easy to understand how swallowed mucus can carry infection and in other ways irritate and disturb the stomach and its functions, though it would appear easier still by the soot-stained test to ascertain the fact that mucus found in gastritis has not always been swallowed. It is in the cleansing of the stomach of mucus and of stagnated and fermenting contents that lavage finds its legitimate beneficial field for treatment. It is unfortunate that such bounds have been extended even by specialists and that lavage is being used for its psychic effect, which practice has already brought into more or less disrepute an otherwise *indispensible* remedy, for no other treatment will accomplish as much, or the same, in the cases given. What the test diet has done in the progress of gastrology, the intestinal test diet has done or threatens to do for enterology.

Nothnagel said about twenty years ago that in pathology and diagnosis of intestinal diseases the examination of the faeces is of even more importance than is the examination of the sputum in diseases of the respiratory tract. That assertion or statement may savor somewhat of exaggeration, but everywhere the big men in abdominal surgery, as well as internists, demand a thorough examination of the stools. To Schmidt and Strasberger belongs the credit for establishing the test diet in intestinal diseases. They gave to a sufficient number of healthy persons carbohydrates, proteids and fats to ascertain what amount of each was normally digested in the average healthy individual. After sufficient time had elapsed for known quantities to appear in the stools, the examination was made to ascertain any deviation from the normal. An example of this deviation would be the appearance of connective tissue fibres, either macroscopic or microscopic in the specimen, in such case the error would be charged to the stomach, for here only is a raw connective tissue digested. Too numerous muscle fibres, especially if their corners are not rounded and they show striations, indicate the upper part of the small intestine as seat of trouble. Starches, fat, blood, pus, mucus, bile, tubercle bacilli, chlostridia, eggs of parasites, etc., etc., are to be looked for. The reaction of the stool should always be tried. Sour odor and acid reaction means fermentation of starchy foods; alkaline react-

ion and offensive odor usually mean putrefaction of proteids.

"Gas eructated," so-called, is now taught to be air that is either swallowed along with rapid eating or that gets into stomach after manner of equine cribbers or stump suckers. Unless an odor accompanies it, it is of such origin.

Meat, meat juices, acids, condiments, particularly salt, coffee, tea, alcohol, fruits, which contain and form organic acids, are the excitants of gland secretions, especially so to acid secreting glands. Oils, fat, sugars, check the same. Starches do neither, neither do they ferment, unless there be stasis.

These facts serve to indicate the dietetic management, though there are two different schools as it were concerning this feature. In Hyperchlorhydria one school gives albuminous foods as meats, etc., which are supposed to have an affinity for the acid, thus taking it up and so deterring its action. The other school prescribes a diet that does not excite the secretion of the acid. The latter would appear to be the more rational. The former would seem to ent off its nose to spite its face, if it give the thing that produces the secretion, and then expect that thing to combine with its product in order to bring relief. The same principal governs the diet in intestinal troubles. Rest for the body and mind and parts affected are always essential.

Medicinally there is little new or little to be done. As said before HCL is limited to cases with absence or reductions of it in the juices, the same may be said of pepsin. Bismuth is given in doses sufficient and for the purposes of coating over the stomach. It is doubtful whether many doses so given are large enough for that purpose. Charcoal is not mentioned by the late authors. Antiseptics are ridiculed. Fowler's solution, also, is not mentioned. Strychnine as stimulant to the appetite and secretions and general tonic is chief of all such. Belladonna, as antispasmodic and to check Hypersecretion is largely used. Alkalies, magnesia and soda and occasionally some form of potash find a large field. Nothing will take their place in acid conditions. An alkaline medium is absolutely necessary for the action of saliva and pancreatic juices, for this reason very few, if any, of the pancreatic, pepsin, diastatic and many other remedies given ever act as designed or desired.

Probably one of the best, if not the very best, of all digestants is the juice of raw pineapple. It is this that Armour uses with which to prepare predigested beef. Caroid and sapoid preparations are good. The action of saliva becomes inert in a 1-1000 acid

solution, whether it again becomes active when afterward rendered alkaline is still in debate.

Electricity through various apparatus is claimed to have cured some cases of hyperchlorhydria as well as cases of constipation, though as a means of assisting in diagnosis of dilatation, gastropnoia, tumors of the anterior wall, etc. by transillumination, it has a more legitimate field.

SCARLET FEVER.

BY B. J. OVERALL, COX'S SPRING.

Scarlet fever is an acute contagious, self-limited disease, one attack usually protecting the patient through life.

The period of incubation is from two to six days, that of invasion from twelve to twenty-four hours. That of eruption from four to six days. That of desquamation from three to six weeks. The disease may be communicated at any time from the first symptoms of invasion throughout desquamation, and sometimes during a purulent discharge from the nose or other mucous membranes. It is usually ushered in by vomiting, high fever and sore throat, and is characterized by a rash appearing first on the neck and spreading rapidly over the entire body.

The chief source of infection is the patient himself, but it may be discharged from the mucous membranes involved, from the scales and probably from all excretions. Infection often takes place from the carpet or furniture, and from the clothing of the patient. Domestic animals, such as dogs and cats have been known to carry the disease. The disease is communicable from the beginning of invasion, even before the rash appears. Infection is most active during the febrile period from the second to the fifth day, and next during the stage of desquamation. Even the mildest cases should be isolated for six weeks, or until desquamation is complete. If complications exist, the quarantine should continue until these conditions are cured. Patients should not be allowed to mingle with other children until at least a month after all symptoms have subsided. Children in the house who have not been exposed to the disease should be immediately sent away, and those who have been exposed quarantined for at least a week.

After recovery the patient should have at least two disinfectant baths before mingling with other children. The entire body being scrubbed with soap and water, and washed with a solution of carbolic acid or bichloride, and every particle of clothing changed. The

nurse should be quarantined with the patient. Keep all persons away from the patient except the nurse. The room should be strictly quarantined and stripped of all furniture not needed; kept as clean as possible and freely ventilated; the floor frequently sprinkled with 1 to 1,000 bichloride.

After recovery wash the walls with the bichloride and scrub the floor with it. Boil all clothing, carpets and curtains, or, better still, burn them. The physician should leave his coat in an outer room and put on a long gown large enough to cover all his clothing. This should be worn in the sick room and boiled when the case is finished. The clothing should be changed before other visits are made, and hands and face thoroughly washed with soap and water and then with a disinfectant solution.

There is no specific for scarlet fever, the treatment is one of symptoms and complications. Mild attacks require no medicine. Keep the child in bed for at least one week after fever has subsided, and upon a fluid diet for at least three weeks. During the eruption the intense itching may be allayed by sponging with a weak solution of carbolic acid or by inunctions with vaseline or lard.

As soon as rash and fever disappears daily warm baths with soap and water should be used, after which the entire body should be anointed with carbolized vaseline. This will facilitate desquamation and disinfect the scales.

The temperature may require interference, cold sponging is usually sufficient, but the cold bath may be required. Alcohol, digitalis and strychnine should be used. When the pulse is weak and soft with a low tension, the throat should be washed with a mild antiseptic gargle; nose washed with a boric acid solution, with the hope of preventing infection of the middle ear.

The indications are to keep the Rhino Pharynx as clean as possible by syringing the mouth and nose.

For convalescence, tonics, particularly iron, are called for antiseptic gargles and nasal sprays should be used as long as a purulent discharge from the nose or pharynx continues.

Intravenous Injection of Antitoxin in Treatment of Diphtheria.—Berlin reports favorable experiences with 120 children with severe diphtheria; he did not hesitate to give up to 16,000 units by intravenous or intramuscular injection. There were no by-effects and no disturbances even from these large amounts of antitoxin, notwithstanding that it contained a certain proportion of carbolic acid as preservative.

THE COMPLICATIONS OF SCARLET FEVER, AS SEEN IN THE TREATMENT OF DISEASES OF THE EYE, EAR, NOSE AND THROAT.*

ADOLPH O. PFINGST, M. D., LOUISVILLE.

I am very glad to accept the invitation of your secretary to take part in this symposium on Scarlet Fever, as I am anxious to know more about this disease and because I have had some very severe cases in my practice, the report of which may be of interest.

It is, of course, known to all of you that the question of the etiology of scarlet fever is still undecided and that some look upon a plasmodium of some kind as the cause, while the majority of observers hold that the disease is the result of streptococcus infection. Others believe that the streptococcus is an accompanying infection and that the real etiological factor has not been found. The theory has been advanced and largely accepted that the avenue by which the infection usually enters the body is through the buccal and pharyngeal mucous membrane and sometimes through the nasal membrane. It is also believed that the danger of infection from the mouth and nose of a scarlet fever patient exists before it does from the skin and that the infectiousness remains for several weeks or months after desquamation of the skin has taken place, some authors holding that occasionally it may last for over a year.

You will appreciate the fact that the opportunity to observe scarlet fever cases early is not often granted men doing special work, so that we are not as well versed in the finer differences in the mucous membranes of the nose and throat as the general practitioner.

Most text books adhere to a division of the throat inflammation occurring in scarlet fever into two varieties, the superficial or mild type and the deep or necrotic type depending probably upon the virulence of the streptococcus, if that be the infection germ or possibly also upon whether the infection is simple or mixed. The superficial type may be subdivided into the simple or erythematous angina and the membranous. In the cases of scarlet with mild throat involvement only a redness of the mucous membrane around and over the tonsils, more or less marked is observed. Sometimes the epithelium becomes opaque, giving the appearance of a mucous membrane to which nitrate of silver or some other mild escharotic had been applied. The same condition may prevail in the nose and be accompanied by a watery, more or less

* Read before the Nelson County Medical Society, December, 1909.

acid discharge. The mucous membrane in these cases after 6—8 days clears up without having formed ulcers and subsequent scar tissue.

The membranous variety, which has often been referred to as pseudodiphtheria is characterized by the formation of a greyish membrane due to the streptococcus. These cases are associated with enlargements of the tonsils, redness and oedema of the tonsils and fauces.

It is not uncommon to find the membrane due to a mixed infection, the diphtheria bacillus being present according to some authors as high as 50 per cent. of cases. You are all familiar with those severe cases in which the diphtheria bacillus predominates and finally forms a true diphtheritic membrane. Fortunately these cases are not frequent.

In the cases with severe throat symptoms the redness is more severe, the change in the appearance of the epithelium more marked, some of which exfoliates, leaving ulcerated surfaces. In the severest cases of this kind necrosis extends laterally and into the depth, leading to marked disturbances. These necrotic cases continue for some time, 8—20 days after the skin process has taken place and are accompanied by a very acid fetid discharge. Most of these malignant cases end fatally.

I believe that there is another variety of cases of which the text books fail to make especial mention. They come on as erythematous or catarrhal cases, but instead of running the mild course of simple angina, these patients continue to run a temperature and the mucous membrane, instead of clearing, becomes denuded of its epithelium in spots as in a severe case of stomatitis. The ulcers coalesce, leaving large areas denuded. The surface becomes dry and often bleeds. The surface of the fauces and nose discharge an acid purulent sanguinous fluid which cakes around the nostrils or causes erosion of the skin under the nostrils and around the lips. A muco-pus can be seen in the posterior pharyngeal wall. A peculiar necrotic odor emanates from the nose and mouth. The teeth are usually covered with muco-pus. These cases are characterized by considerable depression.

I will cite briefly a septic case of this kind seen recently with Dr. Koontz, of Louisville. A boy of 4½ years, who had been exposed to scarlet fever in the same house, began to complain of his throat and a watery discharge from his nose. Skin eruptions were nowhere visible, but he complained of sore throat and of nasal discharge. This child continued to get worse, the nasal discharge

becoming very acid, excoriating the skin of the face. A muco-pus could be seen in the naso-pharynx coming down from the nose. The tonsils were somewhat enlarged and reddened. Areas over the faucial pillars and the uvula were eroded. There was a daily rise in temperature, varying from 101° to 103°. The ears were normal. A guarded diagnosis was made, the child kept in bed and the nose and throat sprayed with a carbolyzed solution. For three weeks this boy grew worse, the ichterous discharge continuing, depression becoming more marked. After the second week intestinal symptoms developed, evidently the result of the swallowing of pus, giving the case the aspect of typhoid. It took this patient 4 weeks to return to normal.

Another case similar to this, but marked by more serious complications was seen with Dr. Brandeis and Dr. Speidel about three years ago and occurred in a girl of 12 years. This child had symptoms very much as in the other case—the chief characteristic being the acid discharge, sometimes bloody, excoriating the skin around the nostrils and lips. The mucous membrane in places was denuded, and there was a daily elevation of temperature, loss of appetite and emaciation and altogether the child presented a picture of ill health. Notwithstanding frequent careful treatment of the nasal and pharyngeal membranes this patient, after about 16 days developed a middle-ear trouble on both sides. Free incision of both drums failed to relieve the earache, although otorrhea was established. The otorrhea continued profusely, fever continued as did pain in both ears and in two weeks the case went to abscess formation in both mastoids. These were operated upon at the same time and after long continued dressing the child recovered and gradually regained her strength and practically perfect hearing.

According to most authors from 15 to 25 per cent. of scarlet cases have ear complications, varying in different epidemics. Statistics also show that about ten per cent. of deafness is due to aural complications of scarlet fever.

Holt in his text book on Pediatrics says that "as a cause of deafness and deaf mutism no disease of childhood compares in importance with scarlet fever." Some believe that in all cases of scarlet fever and measles there is a slight involvement of the mucous membrane of the tympanic cavity as the result of the systemic infection that causes the affection of the throat and nose unless death takes place from intercurrent renal trouble before the middle ear inflammation could develop. While this may be exaggerated I be-

lieve there can be no doubt that the ear is a place of predilection for the extension of infection during the exanthematous diseases and most cases are probably due to primary manifestation of the general disease occurring along with the throat and nose trouble. The most severe cases of otitis, which fortunately are in the minority, are usually due to an extension of the inflammatory process through the tube or through the lymphatics surrounding the tubes.

The extension by continuity through the tubes is no doubt growing less frequent with our increased knowledge of the harmful influence of adenoids and enlarged tonsils and their removal when indicated. Attention to the nasal and pharyngeal mucous membrane during scarlet fever has evidently also exerted a restraining influence upon the tendency to ear involvement.

As in otitis from other causes we recognize catarrhal and purulent forms in scarlet. The catarrhal form usually develops at about the end of the first week and is frequently present without symptoms. Occasionally its advent is ushered in with an elevation of temperature and is followed by pain, deafness and throbbing in the ears. It is frequently bilateral though in a different degree. Inspection of the drums in these cases is often misleading, as they may remain unchanged, even though marked changes have taken place in the tympanic cavity. Often they are reddened. In the purulent cases symptoms are usually more pronounced. The ear trouble comes on as a rule later (most frequently in the second week), and is the result of an extension through the tube. Coming on at a time when the fever accompanying the skin eruption has subsided, it is usually ushered in with a chill, followed by a rise in temperature (102° — 103°), with or without earache, deafness, and increase in constitutional symptoms. The drum or drums in these cases are red and often bulging, although even in such cases they may appear almost normal.

Examination of the ears should be made during the course of scarlet as well as measles irrespective of the presence of ear symptoms. With earache, deafness, redness of the drum or any one symptom denoting ear trouble, the patient should be treated accordingly by rest in bed, attention to the bowels and diet, the application of heat externally and if pleasant to the patient, warm irrigation. With a continuance of symptoms, especially when accompanied by fever I would strongly advocate early paracentesis.

In the cases of scarlet fever with septic throat involvement and secondary middle-ear abscess the danger of mastoid invasion is pro-

nounced. As these children have lost their force of resistance there is a tendency to loss of the drum membrane—necrosis of the ossicle and extensive destruction of bone.

Apropos to this feature I beg to present a sequestrum removed during mastoid operation for post scarlatine otitis and mastoid abscess from a child 6 years old. It involved a large area and as you will see included the semi-circular canals. It is a noteworthy fact that this child was, up to the time of the operation and had at no time shown symptoms of dizziness, irregularity of gait, etc., as we would expect to find in involvement of the semi-circular canals.

In addition to involvement of the ear scarlatinal buccal, pharyngeal and nasal inflammation may be complicated with inflammation of any of the cavities opening into these spaces. Abscesses of the accessory nasal sinuses are among the sequelae, also inflammation of the salivary glands, especially the submaxillary and parotid (mumps), laryngeal inflammation during scarlet fever is uncommon, but has occasionally been observed. The most frequent laryngeal involvement during scarlet fever is oedema of the glottis, which is nearly always secondary to nephritis.

The most serious ocular disturbance dependent upon scarlet fever is also secondary to nephritis and shows itself in the form of albuminuric retinitis. Slight conjunctival hyperemia during the eruptive stage of the disease with photophobia more or less marked is a common complication of the disease. Only last week I saw a case of abscess of the lacrimal sac which is one of the infrequent complications of scarlet fever.

CATARRH OF THE UPPER AIR PASSAGES.*

By W. A. McKENNEY, FALMOUTH.

Catarrh is a Greek word, and means to run. So, that any running from the nose would be considered a catarrh. The mucous membrane of the nose and throat and accessory sinuses are very largely supplied with blood vessels, and when we consider the physiology of the upper respiratory tract with its sensitive mucous membrane, and consider that thousands of feet of air laden with millions of microorganisms, besides particles of dust and irritant vapors, we almost wonder why these attacks are not more frequent. We are all familiar the present season, with the number of cases of hay fever, caused by the immense growth of vege-

* Read before the Pendleton County Medical Society October 13, 1909.

tation, and we are all familiar with the autumn colds that occur about the time we begin to build fires in the fall. But catarrh is most prevalent in the winter months. The rapid changes in atmospheric conditions, constant rains, snows and slush; the inability of persons to regulate the body temperature to the elements.

Going from warm rooms out into heavy laden chilled atmosphere, causes constant hyperaemia, and anaemia of the mucous membrane, which result in stasis and general engorgement and lack of resistance. First, an irritation, which causes a congestion; the congestion produces a paralysis of the end nerve filaments which causes a relaxation of the tissues, and then we have a pouring out or diapedesis of the watery elements of the blood, that may wash away any irritating particles that may accumulate in the mucous membrane. At first the discharges are thin and watery, but after while it becomes thicker due to the exfoliation of the epithelium lining the Schneiderian mucous membrane. This is about the process of an acute catarrh. But, if from a repeated number of attacks of the acute, or from the introduction of streptococci or pneumococci and other frequent complications as infection of the various antra, such as involvement of the Eustachian tube, pharyngitis, tonsillitis, peritonsillar abscess, antrum of Highmore or the frontal sinuses, or the ethmoidal and sphenoidal cells, causing a subacute or chronic catarrh. The chronic condition seems a much longer course and is much harder to treat. Many conditions causing fatal illness are caused by unrecognized and untreated catarrh of the accessory sinuses of the nose. Patients who frequently have acute Coryza, and especially those who have chronic Coryza, are most sure to have some underlying cause. In children, this is often due to adenoids; in adults, it is often due to hypertrophied nasal mucous membrane. But some writers think it is due in both adults and children to an intestinal toxemia. An acute rhinitis is likely to be caused by any one of three or four causes. A chronic rhinitis, chronic intestinal toxemia, an exposure to cold, or to an irritant, such as pollen of plants, dust, or to germs.

Treatment. The best treatment, if possible, is prevention. We may be able to prevent colds by adapting ourselves to the changes from cold to hot and hot to cold; also plenty of fresh air is very essential in the form of fresh air baths; by the proper ventilation of rooms, by being in fresh air as much as possible. Draughts play a very great role in the production of colds, and they should be guarded against.

One of the best things I have ever tried is

to alternately bathe my face and throat with hot and cold water, this hardening the skin, and also adapting the parts to sudden extremes of temperature.

Selection of proper clothing is another very essential thing in the prevention and treatment of colds. The mucous membrane must pass through the trying days of reconstruction, the waste of war in the shape of dead organisms; cast off epithelial ramparts, fibrinous masses and overloaded leucocytes must be cleared away, and thus the mucous membrane is finally restored to its former condition, only one attack predisposes to another. These conditions can be greatly helped by proper medical treatment.

In the acute form in the early stages, a general cleansing of mucous membrane with some antiseptic, such as Siler's nasal, temporary relief by spraying with adrenalin. A solution of menthol and camphor in alcohol, sprayed or mopped on with some cotton will give satisfaction. The application of 1 per cent. Nitrate Silver solution will often give relief.

Constitutional treatment. First, saline cathartic, or mineral water. A hot lemonade, a hot bath going to bed and covering with extra blankets. Analgesics, such as aspirin or acetanilid in small doses, to relieve the pain. Large quantities of water, and taking Dover's Powders are some of the remedies familiar to all. Any of them are good. The main treatment is to begin early after the condition has run for several days it is more difficult and more unsatisfactory to treat.

The chronic form of catarrh of the upper air passages is much more difficult and unsatisfactory to treat. There are two forms; the hypertrophic and atrophic. They are the opposites. In the hypertrophic, there is an increased or a thickened condition of the mucous membrane; in the atrophic, there is a thinning out of the mucous membrane. In the first, the treatment is by local applications of astringents, antiseptics and disinfectants. In the atrophic, use stimulants, and massage with a probe, etc. The sooner the condition is recognized and treated the better.

Röntgen Examination of Shape, Size and Location of Stomach.—Groedel gives a dozen illustrations of the normal and pathologic stomach examined with the Röntgen rays after ingestion of Rieder's bismuth test meal, that is, gruel, spinach, hash of the like, to which a suspension of 40 to 50 gm. of bismuth has been added and the whole mixture diluted with water or milk to a total of 400 gm. *Munchener medizinische Wochenschrift.*

DRUGLESS THERAPEUTICS.*

By JAS. A. YOUNG, HOPKINSVILLE.

There has arisen in the mind of the public a great interest in non-medicinal treatment of diseases. It is to be regretted that this interest has not been aroused by the investigations of competent and scientific men, but is largely due to the activities of unscientific and irresponsible parties, exploited in the sensational columns of Sunday papers and of monthly periodicals, particularly those devoted to women's interests.

The recent death of a man in New Jersey on the stage while under hypnotic influence not only reveals the character of much that is called investigation, but also the character of the parties conducting them. A competent person would have known of the aneurysm and thus have prevented the unpleasant result. Hypnotism is one of the most sensational forms of suggestion now used in the treatment of disease and the profession owes a duty to itself and the public to investigate its phenomena under scientific environment, observation and the elimination of all stage tricks and charlatan methods.

It is gratifying to note that the profession is putting aside its historic conservatism in regard to new and irregular methods and in different sections commencing to give the attention to all drugless methods of treatment that their importance demands. Recently a ward in Bellevue has been devoted to Psychotherapy, and in Germany physicians of prominence and note are taking an interest in this form of treatment that leads us to hope for a scientific basis for study of them and acceptance of results.

It is not the intention of this paper to draw an invidious comparison between drug and drugless therapeutics, but to call your attention and arouse your interest in methods that have been too much ignored by medical men and allowed to drift into the hands of incompetent and unscrupulous parties.

This indifference to and resulting ignorance of many valuable remedial measures not strictly within the domain of scientific medicine has been and is yet productive of much harm. Our boards of health have stimulated interest in sanitation and demonstrated the value of air and climate in the treatment of tuberculosis, yet 7,000 persons annually go to Texas and California only to meet certain and rapid death. This melancholy fact is due to the vague and uncertain ideas prevalent as to the value of air and the requirement of climate. Many of these persons would do better in this accustomed cli-

mate if their environments were changed. As stated before, we owe much to our State Boards of Health for valuable information on this subject, but much remains to be learned.

It is beyond the scope of this paper to give a full presentation of the various non-medicinal methods relied upon in the treatment of disease, only a very superficial view of one of the most prominent one can be attempted. A treatise could be devoted to each without exhausting the subject and the barest mention of them must suffice. Under a systematic study of the subject it naturally divides itself in three great heads. First, natural therapeutics; second, manual therapeutics and third, mental therapeutics. The first division leads to a study of the elements and forces of nature and includes the knowledge of the value of air and water and their use in the treatment of disease, the regulation of diet and the preparation of food, exercise of the body suited to the individual condition, bathing and how to do it. It is no unjust criticism of the physician to say that a lamentable ignorance on this subject prevails among them and yet no one will deny their importance. Many patients fail to be benefitted not from the want of skillful medication, but from inattention to these details and these failures occur not only in the practice of our competitors, but in our own. Take, for instance, the value of hot and cold baths. Where accessible, the patient is sent to an establishment under the control of a person ignorant of pathology and physiology. Where the institution is not available instructions as to bathing are often meagre and imperfect. It is a pertinent question as to the value of information that we can give our patients on this subject.

Under the second head, or manual therapeutics, comes massage and its colleague osteopathy. Swedish Movement Cure and many varied forms of external treatment. Like the first named division, the physicians (to use commercial vernacular) are "short" on these. The principal argument used to induce the patient to try these is that they are using something that the physicians know nothing about. It is an interesting subject for thought as to how strong a hold osteopathy would have had if the profession but possessed a thorough knowledge of massage. If a town of this size, one or two competent massagers had been encouraged by the physicians and used by them to administer it to their patients the result would have been more satisfactory to patient and physician alike. It is useless to ignore the benefits that accrue from the use of these methods, but it is equally true that they are often applied

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by persons without proper knowledge of the physical conditions and their benefits are lessened.

The third division is the most interesting in many ways, mental therapeutics. This is the great borderland between Science and Charlatanism into which the reputable physician hesitates to enter and the charlatan delights to exploit. Into this division all the varied methods of the use of mental suggestion will naturally be included, such as Dowism, Emmanuel Movement, Christian Science and under some conditions, electricity. The strength and value of all these is founded on the basis of suggestion or Physiotherapy.

Preliminary to a few thoughts upon Suggestion two cases will be presented for your consideration; one of them occurred in my own practice and one about which I have such reliable information that I am willing to assume responsibility for same.

In March, 1908, a gentleman from a neighboring town brought his wife to my office with a history of five years' ill-health, during which time she had passed from the curette to osteopathy in vain and had had as many diagnosis as she had physicians. She was weak, nervous with distressed facial expression and gave a history commencing with the birth of a child five years before followed by a condition for which a curettement had been resorted to. She suffered from dysmenorrhea, constipation, indigestion, insomnia with headache and other nervous symptoms. The removal of the ovaries had been advised. She had taken numerous patent medicines and spent one half of her time in bed. Discouraged by diverse diagnosis and different plans of treatment suggested by her physicians she had come to me through the influence of a relative, as a drowning man catches at a straw. She spent an hour recounting her history and describing her numerous symptoms. I made no remark, attempted no examination, asked no questions, but when she closed with the question, "Doctor, can you cure me?" a happy inspiration struck me and I replied, "No, madam, I cannot, nor can any other physician, but I can tell you how to cure yourself." She received the advice to take a cold plunge bath every morning followed by a brisk rubbing at the hands of a servant with rough towels, to return to bed until reaction was fully established, to spend the day in domestic activities, to omit coffee at her meals and to go to bed supperless. For her constipation to rely upon cold enemas. This treatment was to be kept up at least ninety days except during menstruation. The woman is now well and has regained her flesh and strength; appetite and

digestion are good, bowels are regular and menses normal.

In the same month and year a friend of mine holding a responsible position in a Chicago establishment, was notified by his employers that he could have three months to regain his health and in case of failure he would lose his position. His history was of several years of nervousness, insomnia, constipation, indigestion and emaciation. He had received the regular routinism of medication, and tried in vain irregular methods of treatment and had visited health resorts without benefit.

He went immediately to an Emmanuel Cure, interviewed the preacher, was examined by the doctor and received the following treatment: First, he was placed in a room, dark and with black walls save one small brilliant spot on one side. He was placed upon a couch, directed to fix his eyes upon that spot and repeat constantly this formula: "I am going to get well." He slept and in a little while he awakened in the room, lighted. He was sent next day to a farm with directions to bathe in cold water and to assist in the labors of the farm to the extent of weariness every day. In seven days he returned for a treatment similar to the first, only the formula was changed to "I am getting well." After four such treatments he was sent to hard labor in a saw mill and at the end of three months returned to his work well and strong.

For the purpose of analysis and study these cases are both defective from the lack of diagnosis, but a comparison of them may be beneficial. That they were both neurotic is apparent and the absence of any organic disease may be assumed. The case under my care received a treatment that is not subject to criticism and would meet the approval of rational physicians from Hippocrates to the present. The man received virtually the same treatment, plus the hypnotic methods. Now, the pertinent question arises, what value was in the darkened room and the hypnotic sleep in the treatment. Under eminent physicians he had used physical culture, received massage, experimented with osteopathy, tested the efficiency of mineral health resorts, all in vain. He was a college mate of mine, years ago, eminently of a practical mind and a successful business man. He has under his charge a department of one of the largest plants in the world and is not in any sense a man that could be imposed upon by "stage tricks;" some new factor was evidently brought to bear in the accomplishments of the results that had failed to be achieved in his previous treatment.

Excluding all mysteries and superstitions,

hypnotic vagaries and fanciful theories there is much genuine science in mental therapeutics. The mixture of the priest and doctor, religion and healing, as found in Christian Science, Emmannel Movement, etc., is a disgusting feature, preventing a calm judgment and investigation of the claims of this method of cure.

It is conceded that good results can often be accomplished by an intelligent use of psychic influence in certain forms of disease and that this method falls far short of scientific accuracy has not discredited its possibilities when honestly and intelligently used.

A few unconnected thoughts about Suggestion in its relation to medicine will close this paper. Suggestion has been defined by an eminent psychologist as the impression upon the mind of an idea in such a way as to transform it into action. Thus defined it is the basis of all mental activities and is relied upon by the orator to move his audience, by the preacher to arouse his hearers and by the drummer to sell his goods, by the teacher in instructing his pupils, in fact, the communication of one man with another. In relation to medicine, suggestion consists of the use of verbal persuasion or of exciting imagination or expectations or by giving confidence and strengthening the volition, fixing the idea of cure and recovery in his mind thereby increasing the curative action of the cells. When we consider that it is the cells of the body that do the curative work, that the doctor or surgeon only removes obstacles or assists the system in a struggle against hostile influence that stand in the way of cure we are prepared to study impartially the value of suggestion in the treatment of disease. We are familiar with the effect of the presence of the physician on the patient, how a calm and confident air is often a sedative, his words of hope a stimulant, his touch a hypnotic, these are but natural methods of applying suggestion in the sick-room. But is this the limit of its use, is it below the dignity of the profession to adopt some of the methods that have proven effective by scrupulous men or avail themselves of the result of their crude investigations?

Too long the minds of the pathologist has been under the influence of materialism in their search for the cause of disease to grasp properly all the phenomena of life. Under its influence they will not believe what they cannot see and under microscope and clinical test they confirm their examinations to material nature, ignoring the fact that there is something in life and disease, for disease is but morbid life beyond the ken of the microscope. The test of the crucible and the revelation of the scalpel, in spite of the light

which the physical sciences have thrown upon the sphere of dynamic forces and their action the tendency of pathological research is towards gross materialism. Though a word may blanch the cheek and dim the eye and stoop the body and sap the strength and frost the hair and destroy the life, we still persist in our microscopic hunt for the ultimate cause of disease among the varied forms of bacteria, unconscious of what comes before bacteria.

This vital force which controls the human organism the German psychologist has denominated "psychic" and define it to be a force imperceptible to the senses, in fact similar to the natural forces as gravitation and electricity which without seeing we know. It is not necessary to enumerate the facts that they present or arguments that they adduce in favor of its existence. Their action and counter action of mind and body has been and is yet an interesting study to all students of science.

Osler concedes that acute atrophy of the liver is caused by fear; all have recognized that grief affects the liver and we have each come in contact with the old lady who has passed a life of despondency because in her early days some doctor had told her that her womb had grown to her back. This line of thought is doubtless familiar to all of you and I will not push further than to ask if suggestion will relieve nervous trouble, why not organic?

This very brief presentation of suggestion does not allude to hypnotism, its most dangerous form and many other points of interest have been left out, but I am deeply impressed with the conviction that the doctrines and practices of this school will work a great change in the accepted dogmas of today. The brilliant achievements of surgery, the wonderful revelations of chemistry and the startling development of bacteriological investigations have not only inaugurated a new era in medical history, but is directing the mind to the study of the great principal but invisible force that we call life. And as by a study of its phenomena we have mastered the invisible and imponderable force of electricity and bound it as our willing slave and so by a study of its action we may learn to control the vital power of man, that eye hath not seen nor man comprehended.

It is to be hoped that American science, which counts so many illustrious names in all branches, will soon atone for the long years of prejudice and neglect, protect society from the dangerous influence, and serve it by its wonderful powers.

PROPHYLAXIS.*

By J. R. SCARBOROUGH, CLINTON.

When the committee saw fit to place me on the program, they could not have selected a subject nearer my heart than the one above named.

The prevention of disease has never in the history of the world received so much attention as at the present time, especially among the physicians and the more intelligent laymen of the country.

The work has just begun and is still in its infancy. I think that to prevent disease should stand at the head of the physician's many duties of his calling. I insist that the prevention of disease should not be left alone to the boards of health—while it is true they may take the lead—but unless they can have the co-operation of the entire medical profession they can accomplish but little. You ask, what can we do. I say much every way. We need not expect but little progress in prophylaxis until the people are educated on sanitary measures and interested in the subject of how to keep well.

You say that is a pretty big job, which it is, but we must take the lead. Can we not enlist in this great work the public press, all the teachers in our public schools, colleges and universities, which would be the greatest factor of all. In the financial world there is an old saying that "a man must live within his income if he would lay up something for a rainy day." So the man who makes \$2 per day and spends \$2.50 will soon be a bankrupt, but if he should only spend \$1.50, he will always have a reserve fund to meet future emergencies. So in the physical world, a man should so live as to keep his vital forces above the natural wear and tear of the body. If a man is temperate in all things, with good sanitary surroundings, with pure wholesome food, filling his blood vessels with good rich blood, purified by plenty of fresh air, he is then in a good condition to resist disease, but the man who indulges in excesses of any kind which impair digestion and assimilation, deranges the nervous system and destroys elimination, is in no condition to resist the encroachment of disease, especially of tuberculosis. As the whole world is now engaged in a war against tuberculosis, I think we should enlist and do what we can on this line. It is a recognized fact that tuberculosis and civilization go together, and if the demands of civilization require us to so live that resistance is impaired, we had better call a halt in some of our modes of living, as tuberculosis is infectious, preventable, and

under some circumstances, curable, and as I think every man, woman and child above ten years of age has, at some period in life, come in contact with the bacilli, and the reason they have not succumbed to the disease is because of the resisting power of the individual. To live in the open, with plenty of wholesome food, with the proper care of the body from the change of weather, etc., keeping blood pressure at high tide, and resistance above par, you need not fear consumption.

I do not care to discuss the heredity of tuberculosis, but I will say that I would prefer to take my chances of being born of tubercular parents and immediately taken away and reared in non-tubercular surroundings, than to be born of healthy parents and then reared in a home infected by tuberculosis—unless they should observe all the necessary sanitary measures to prevent the disease. To keep from becoming infected, we must not come in contact with the bacilli for, as stated by some authorities, they may remain as our host in a latent state indefinitely, only waiting to find our resistance impaired when they get in their deadly work.

It is almost impossible to set up regulations in a home where we have a tubercular patient, so complete as not to endanger other members of the home. In the first place, it is difficult to make an early diagnosis, which is so necessary to guard against infection as well as to give proper treatment.

By the use of the different tubercular test, the microscope, and the history of the case, you may form a pretty correct conclusion as to the nature of the disease, then you can tell him he has consumption, but it is a hard job usually, to get him to believe it, and if you are unable to get his co-operation in the management of the case, your efforts will likely be a failure. I think if we all will try to do our whole duty in the prevention of this dreaded disease that in 15 or 20 years we will reduce the mortality 50 or 75 per cent.

Consumption is not the only enemy of mankind with which we have to contend. Typhoid fever carries off many thousand of our people every year, and yet it is more easily prevented than any of the so-called preventable diseases. It is true we may not be able to prevent a sporadic case, now and then, but if we can get the co-operation and assistance of the community in which it occurs we can do much to prevent an epidemic.

It is true we cannot make a diagnosis as early as we would wish, but when symptoms point to typhoid fever, we should not hesitate to say so, and begin an investigation of the cause or source of infection and when the diagnosis is complete, then institute such

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regulations about the patient so as to prevent others from taking the disease. See that the room has plenty of fresh air, and well screened off against the fly, that no vessel used by the patient shall be used by others unless they are thoroughly sterilized, that all the excrements of the body are immediately burned, and that the source, if found be abated at once. Instruct the neighbors who come in to assist in nursing the patient, if any come, to abstain from all foods and drinks which have not been well cooked or boiled. It has been found by recent investigation that about 5 per cent. of all people who have had typhoid fever will carry the bacilli indefinitely, thus leaving it possible to infect others wherever he may live. As we have many bacilli carriers, I would suggest that to prevent the spread of this terrible disease, that we urge the people to always use good pure water, plenty of fresh air, perfect sanitary surroundings, so that the fly will not propagate about the premises and, to have the houses well screened off against all insects, that the vital forces be kept in good repair so that we may reduce the chances of the man coming down with typhoid fever to the minimum. I would like to dwell on the prevention of tuberculosis and typhoid fever to a greater extent, but when I remember that prophylaxis covers a broad field, and by attending carefully to the laws of nature, assisting secretions and elimination, thus preventing auto-intoxication as far as possible, we may prevent, to a great extent many of the ills to which man is heir. It seems that every organ from the mouth to the rectum is the habitat of some form of germ life. It is said that the pneumococci is found in the mouth of most every one at all times, and if that be so, we should wash our mouths thoroughly every day with normal salt solution, and avoid exposure, etc., and thus prevent many cases of pneumonia. The diphtheria germ is found in the throat of many children, especially during an epidemic of this disease—then why not use an antiseptic gargle?

Until the child is exposed, then, of course, no one would be satisfied without the use of the diphtheric serum. You ask why a healthy child with the diphtheric germ in his throat does not have the disease until he is exposed to a new case. I say sometimes he does; we sometimes have what we call sporadic cases, that is, one which has not been exposed to a fresh case of diphtheria. I think the reason for this is, that the vital forces of the child have been impaired some way so that the diphtheritic forces get the control of the vital forces and brings him down with diphtheria. Then, I also think that when a

healthy child who is exposed afresh comes down with diphtheria is because that the germ forces are so reinforced that they overcome the vital forces. This is not alone the case in diphtheria, but in many other diseases, such as scarlet fever, measles, cholera, cholera infantum, etc. I think a considerable percentage of cases of intero-colitis and cholera infantum can be prevented by a proper education of our mothers on how to clothe and feed the little ones; see that they get nothing but easily digested food, plenty of fresh air and properly dressed according to the weather.

In conclusion, I would say again that our highest aim as physicians should be to prevent disease. When we look back and see what our noble profession has done for mankind, where small-pox, the greatest scourge the world ever knew, which has claimed millions of victims, has, by the medical profession, been made to take a back seat. Yellow fever has lost its terror. The science of prophylaxis has made it possible for the tropics to be inhabited. I think one of the greatest achievements in preventive medicine has been demonstrated in the Panama canal, where the French many years ago had to abandon the construction of the canal on account of malaria. But now, thanks to the science of prophylaxis, it is almost a health resort. The death rate is now no more than in our American city. To mention all the great achievements of preventive medicine would be unnecessary, therefore I would say, with our past experience, our present opportunity, and our future possibility, let's press forward.

THE DIAGNOSIS OF TUBERCULOSIS APART FROM PHYSICAL SIGNS.

WM. LITTERER, A. M., M. D., NASHVILLE.

The early diagnosis of tuberculosis was never made more apparent than it is to-day. The superlative importance of obtaining as early a recognition of this disease as possible is self-evident. It is in the incipient stages that the greatest amount of effort should be exerted toward diagnosis, because a cure can be promised to the majority of these individuals if recognition is made before serious pathologic changes have taken place.

The difficulties attending the recognition of this affection in its incipency are manifold; particularly is this true of obscure lesions of the bones, joints, lymph-nodes, viscera, the nervous system, doubtful apex lesions, and the like. When these structures are infected with tubercle bacilli, not infrequently indefinite and ill-defined symptoms arise, which

tend to leave us in doubt concerning the true nature underlying the pathologic process. Thanks to the introduction of refined methods which enable us to arrive at earlier and more definite conclusions. It is in this class of patients particularly, that diagnostic tuberculin tests are warranted. If they are not tuberculosis, it is a great injustice to ostracise them; if they prove to be tuberculous, it is beneficial both to the patients themselves and their fellows that they be treated as such. The employment of tuberculin subcutaneously proved to be a valuable adjunct to our diagnostic armamentarium in determining the presence or absence in tuberculous affections in doubtful cases. Added impetus to the subject has been recently aroused by the announcement by Von Pirquet of his cutaneous method of applying tuberculin for diagnostic purposes. A little later came the almost simultaneous and independent communications of Wolff-Eisner and Calmette describing their conjunctival method. Other methods, virtually modifications of the Von Pirquet test, have lately been described. The most important of these are the Moro ointment reaction, the Lignieres, the Lauvier, the Mantoux intradermal test, and many others. Some of these tests give promise of being simpler and possibly just as accurate as the much older and established subcutaneous test.

PREPARATION OF TUBERCULIN.

In order that the results of my experiments be of value in comparison with others, I have deemed it wise to manufacture my own tuberculin, giving exact methods of preparation. This insures fresh products, made from the same strains of tubercle bacilli and from the same kind of culture media.

KOCH'S OLD TUBERCULIN.

The method of preparation consists of the inoculation of five strains of the human type of the tubercle bacillus at incubator temperature on glycerin bouillon, grown until the culture had covered the entire surface, which usually takes place in about six to eight weeks. The flasks containing the culture media were sterilized by steam for three hours. The bulk of the organisms is then removed by an ordinary filter paper followed by a double filtration through a fine-flow Berkefeld filter. The filtrate containing toxins (tuberculin) was evaporated over a water bath 1-10 of its original volume and again filtered through a Berkefeld, collected in suitable bottles, and sterilized by the fractional method.

The Bovine Tuberculin was prepared identically as the above, substituting five strains of bovine for the human cultures.

TUBERCULIN PRECIPITATE (P. T.)

One volume of Koch's old tuberculin (being made by above process) is slowly added to two volumes of 95% alcohol in a tall cylinder. As soon as the precipitate settles to the bottom, decant the supernatant liquid, then collect precipitate on a hard filter. To aid filtration, a suction pump is used. Wash precipitate with 70% alcohol until it runs clear. It is then dried in vacuo over sulphuric acid and when perfectly dry is ground up in a mortar into fine powder. The powder can be either weighed and made into compressed tablets or dissolved into normal saline solution to whatever strength desired. This preparation is practically exclusively used in the ocular tests in strengths of .5 of 1% to 2%.

Calmette (1) suggests that freshly prepared material be used. I am now using this preparation for the Von Pirquet cutaneous reaction in strengths of 25% and find that negative reactions are obtained in a few healthy persons, where positive tests resulted by the use of the old tuberculin on the same subjects. From this it would seem to indicate that the "precipitated tuberculin" is not quite so sensitive or else it has been freed from all irritating substances that may be found in the "old tuberculin." These substances, when present, may produce false reactions in healthy individuals. Many more tests will have to be recorded in order to prove or refute these statements.

Another advantage in using the precipitated tuberculin is that a more uniform strength can be obtained than by the use of the "old tuberculin," which is next to impossible to standardize to uniform strength.

Of the many specific aids in the diagnosis of tuberculosis, I shall take up those which I deem the most important—viz., the subcutaneous, the Von Pirquet Cutaneous, the Wolff-Eisner-Calmette Eye test, and the Moro Ointment reaction. There are others that are more or less modifications of the above tests, and still there are others, such as estimating the opsonic index, the agglutination test, cyto diagnosis, etc., that are quite valuable, but time will not permit their being discussed in this paper.

THE SUBCUTANEOUS TEST.

In the whole range of medicine there is scarcely a more interesting phenomenon than the tuberculin reaction. We have a substance which to healthy animals is practically inert, while it becomes highly toxic toward subjects that are affected with a very trivial tuberculous lesion. The honor of first employing tuberculin for diagnostic purposes is generally attributed to Von Berg-

mann. He used it to determine the nature of a tumor on the cheek, supposedly tuberculous. A decade ago those of our profession who advocated the use of tuberculin were exceedingly few and far between. The first few years of its use resulted in nothing short of disaster, and caused for a time the abandonment of what greater experience and careful employment have proved to be our most valuable diagnostic agent for tuberculosis. The use of tuberculin for diagnosis and treatment is increasing. To-day we find a majority of the progressive members of our profession employing the remedy at least as a diagnostic measure. Those who were loudest in their denunciations a few years ago have now become non-committal.

The consensus of opinion is that not only is it a valuable diagnostic test, but it is harmless in selected cases when the proper dose is administered. In febrile cases it should never be used. Prof. William C. Osler, speaking before the British Congress of Tuberculosis, makes the following statements that "in the wards of the Johns Hopkins Hospital we have used tuberculin very much as Prof. Koch has advised, and I bear willing testimony to its inestimable value in certain cases, particularly in doubtful apex lesions and obscure abdominal cases, and in pleurisy. An important point is its harmlessness. I remember no cases in which injurious results have followed the injection."

METHOD OF ADMINISTRATION.

The temperature of the patient should be taken once in three or four hours for a period of several days before giving the first injection. The pulse rate of the patient is to be also investigated. As a rule, I have not used the test in patients having maximum temperature, over 100° F. The initial hypodermic injection is 1-10 of a milligram of Koch's old tuberculin. This is called the "first diagnostic dose." During the test period the temperature is taken every two hours. After each injection the patient's symptoms are recorded and the chest examined. If no reaction follows this, in from three to four days, give another injection (second diagnostic) of tuberculin one milligram, and if the second dose fails to respond, give three or four days later (the third diagnostic) of tuberculin seven milligrams. If no reaction results from the third diagnostic dose, we are reasonably assured that the patient has no active tuberculosis lesion. The doses for children from 7 to 14 years of age are as follows: First diagnostic, 1-20 milligram; second diagnostic, 1-10 milligram, and third diagnostic, 1 milligram.

THE REACTION.

In every typical tuberculin reaction there are four features which are recorded, viz: (1) Temperature, (2) constitutional symptoms, (3) local reaction, (4) focal reaction. A rise in temperature of one degree F. above the previous maximum is considered positive. As a rule the temperature begins to rise in six to twelve hours, reaches its fastigium in twelve to twenty-four hours, and is normal again in another twenty-four to thirty-six hours. Sometimes reactions are delayed twenty-four hours after the injections. Great importance is attached to the development of general and local phenomena. According to Schulz, who has had ripe experience with its use, claims that even in the event of only a slight rise in temperature, the development of rales where they were previously absent, or the occurrence of general symptoms, such as headache and backache, pain in the joints, nausea, increased expectoration, etc., are considered positive. Owing to these latter symptoms there are some who condemn its use. The most important arguments against its administration are: (1) Its inapplicability in pyrexial cases, (2) the general malaise and discomfort attending a positive reaction, (3) the lowering of the opsonic index which takes place as a result of injecting large doses of tuberculin into the system. It is obvious that a method of producing the same results, which could be used in febrile cases and which would be free from attendant discomforts, would be of enormous advantage. It is with this expectation that one turns to the non-constitutional or local reactions.

THE VON PIRQUET CUTANEOUS REACTION.

A variable degree of local irritation at the site of injection of tuberculin has long been noted in subcutaneous use on tuberculous patients, but its true significance was not fully realized until Von Pirquet called attention to the fact if a person should be vaccinated against variola (smallpox), and later if this person should be re-vaccinated after several months, that a rapid development of hyperemia and swelling will take place in the scarifications of the secondary vaccination, which quickly subsides, leaving no pustule or scar. After careful observation of the above phenomenon, he tried the same method in tuberculous subjects and found that only individuals who had been infected previously with this disease showed a persistent local inflammation when Koch's old tuberculin was applied to a scarified area in any part of the body. This reaction is due to the increased sensitiveness of the tissues of the tuberculous, as compared with non-tuberculous per-

sons, who should exhibit little or no sign of irritation from the same procedure.

Modes of Application. The arm is washed with soap and water, then with alcohol, and allowed to dry. Three minute scarifications about the size of a match head are made two inches apart on the length of the arm. The scarifications should be just deep enough to produce a little redness without drawing blood, such as in ordinary vaccination.

In the upper and lower areas (scarification) one drop of the precipitated tuberculin solution is applied to each. The middle area, or scarification, is unmolested, being used as a control. The arm is exposed to the air about ten minutes to allow the solution to dry. A dressing may be applied, but this is not necessary. The slightest reaction can be discerned by comparing the upper and lower scarified areas with the central area upon which no tuberculin was placed. Examination for signs of reaction should be made every six hours. The earlier a reaction appears, the more likely has the patient an active form of tuberculosis. If the reaction is not apparent within twenty-four hours, the probability is that the patient has no active tuberculosis. A negative reaction is of the surest value, indicating an absence of a tuberculous process. If the reaction does not manifest itself until about forty-eight hours, then it is considered to indicate a latent, or healed tuberculous condition. The reaction is characterized by a hyperemic zone occurring adjacent to the scar, usually circular in shape, extending outward as the reaction increases in intensity. It varies greatly in size, from one-fourth inch to two inches or more in diameter. Usually there is an indurated elevation in the central zone which, in the severer reactions, will be covered with minute vesicles. Itching is quite common. The disappearance of the reaction will take place in a few days, followed often by a brownish pigmentation at the site of reaction, which persists for some time. The reaction is not attended by general symptoms, such as fever and malaise.

OPHTHALMIC TEST.

Wolff-Eisner showed that by instillation of a dilute solution of tuberculin into the eye of a tuberculous subject that a local reaction resulted in a few hours, which was characterized by a congestion of the conjunctiva and caruncle, with a more or less abundant sero-fibrinous exudate.

Method of Application. It is imperative to avoid unnecessarily severe reactions. With this end in view two solutions have been agreed upon. The weaker solution No. 1, with a strength of .3 of 1 per cent. is employ-

ed, and if no reaction manifests itself within forty-eight hours, then the strong solution No. 2, with a strength of .8 of 1 per cent., is employed in the opposite eye. The same eye should not be used for the second test, as it becomes sensitized by a single test. The precipitated and purified tuberculin should always be used to avoid any irritating properties that may present in the old tuberculin.

Technique. The eyelid is pulled down and one drop of the tuberculin is instilled into the eye. Care should be exercised that the drop does not flow on the cheek. This can very easily be prevented by holding the lid down so that the material can be distributed about the sac. If no reaction takes place in forty-eight hours, then use the stronger solution No. 2 in the opposite eye. Warm the solution before putting into the eye.

Reaction. If the patient is tuberculous, you will notice the first symptoms of a reaction appearing in from three to twelve hours; sometimes it may be delayed even forty-eight hours. The presence of a reaction is indicated by lachrymation, redness of conjunctiva, and by a scratchy feeling, as if something were in the eye. Reaction should not always be expected in far advanced tuberculosis.

Contra-indications. Any inflammation of the eye or lids—conjunctivitis trachoma, keratitis and iritis. Eye strains from errors of refraction need not prevent the use of the test.

OINTMENT TEST.

Prof. Ernest Moro, of Munich, describes his percutaneous test as follows: A tuberculin ointment is prepared, containing equal parts of "old" tuberculin and refined anhydrous lanolin. The favorite site of the test is the skin of the abdomen immediately below the Xiphoid process. If an eruption is noticed in this area, then select some portion of abdomen in which it is free. The site is washed with soap and water, then with alcohol, and allowed to dry. About fifteen grains of the ointment is rubbed in for forty-five seconds over an area of about two inches in diameter. It is then exposed for about ten minutes and a gauze dressing applied to prevent the extension of the reaction by contact with any other portion of the body.

Reaction. The reaction is noticed by the appearance of a papular efflorescence or nodular eruption at the site of inoculation. It usually appears within forty-eight hours, seldom later. In severe reactions it may occur within the first few hours after the application of the ointment, and is characterized by the formation of a hundred or more red nodules, varying in size from a pin-head to three times its size. The reaction is nearly always

accompanied by itching. After a few days the lesions will dry up and desquamate. No constitutional symptoms—such as rise of temperature, headache, general malaise, etc.—accompany the reaction.

ORIGINAL INVESTIGATION.

Within the past year and a half I and my assistants have been able to collect some data relative to the various tuberculin tests. There were 147 ophthalmic tests made: 120 Von Pirquet, 58 Moro, 12 Ligniers, 80 subcutaneous, and 20 each bovine and human tests. Our patients were obtained from Vanderbilt Hospital and outdoor department, from the Nashville City Hospital, from the Industrial School, and from students. Four of the above tests, viz: (1) eye, (2) skin, (3) ointment, (4) subcutaneous tests—were given to thirty patients, all reacting to the Von Pirquet test, twenty-four to the ocular, twenty-five to the ointment, and twenty-two to the subcutaneous. In five tests by the Von Pirquet method the reaction did not appear until after thirty-six hours. In three of these five cases the Moro reaction was also delayed; two were negative. In the ocular tests the reaction in three of the five cases was not appreciably delayed, but was rather mild; the other two were negative. The subcutaneous test was negative to the above five patients. In forty-six perfectly healthy adults ten proved positive to Von Pirquet; six of these did not show until about forty-eight hours; four reacted in twelve hours' time. Eight out of forty-six responded to the ocular test. Six tests were only very mild. Five only showed with the Moro out of the forty-six tests. Two of the cases gave a severe test, while the rest produced a delayed and mild reaction. The subcutaneous test was applied to the forty-six subjects, and after the third injection three reacted mildly. These three had given one negative and two prompt positive reactions with the Von Pirquet. With the ointment test, identical results happened as in Von Pirquet. In the ocular, all three reacted promptly.

Apparently the results obtained by Ligniere's test is the same as that of Moro's except, possibly, it may not be so delicate. More comparative tests should be made in order to draw definite conclusions.

The Stich reaction and the Mantoux intradermal test have been used by us a number of times, but no comparisons with other tests have been recorded.

COMPARISON OF HUMAN AND BOVINE SCARIFICATION TESTS.

Detre first suggested a differential tuberculin reaction, by which he attempts to dif-

ferentiate between the bovine and human type of infection by the differences in reaction to tuberculin, prepared one from bovine, the other from human cultures. In our investigations we used the following technique: Ten per cent solutions were employed and six scarifications were made, two inches apart, three parallel with each other. In two of the abrasions (upper and lower) the human was placed, while in the other two the bovine, leaving the two middle scarifications for control.

In twenty cases of known tuberculosis we applied the above tests; found that ten reacted more strongly to the human type than to the bovine, and that four reacted more violently to the bovine than to the human, while in the remaining six, no difference could be discerned.

It was noticed in the above experiments that where a reaction was present in one type, there would always be some reaction, however mild, with the other strain. In no case have we seen this fail.

CONCLUSIONS.

1. The different results obtained by different workers in all probability depend upon the employment of solutions of varying strengths as well as defective technique in their preparation.

2. In the conjunctival test, if proper technique, proper preparations (using the weak solution first, and if negative, followed later by the strong) be used and the proper selection of cases, there is practically no danger in its employment.

3. In pyrexial cases, the subcutaneous injections are not applicable, while the superficial tests can be used without affecting their diagnostic value.

4. In cases without symptoms which react, it should be regarded as a danger signal and not a condition demanding active treatment.

5. It is generally believed that a delayed integumental test and a negative conjunctival reaction means a healed tubercle. The superficial tests are valuable in prognosis of manifest tuberculosis. A negative or delayed reaction indicates a serious sign. A prompt and vigorous reaction points to a much more favorable prognosis. All of the above signs, however, may fail.

6. I am of the opinion that the subcutaneous test is somewhat more reliable than the integumental and ocular tests. I am becoming more impressed with the Moro ointment test than any of the newer ones.

7. To obtain the best results from tuberculin from the diagnostic standpoint, I would advise the use of the three superficial tests—viz, (1) eye, (2) cutaneous, (3) ointment—

be applied on the same patient at the same time, and if any doubt exists as to their interpretation, then follow it with the simultaneous test.

THE ETIOLOGY AND TREATMENT OF LOBAR PNEUMONIA.*

By D. H. MCKINLEY, WINCHESTER.

I have chosen for the subject of this paper a disease with which you are all so familiar, and of which you have heard so much, that you may feel that I owe you an apology for inflicting upon you another dissertation upon so hackneyed a subject. Perhaps I do, but I offer for excuses, first, that I have personally been very much interested in this most formidable malady, having seen quite a number of cases in the past few years under such conditions that enabled me to make a careful study of them, and to compare the results of various methods of treatment employed. Secondly, that notwithstanding the amount of study that has been put on the subject and the innumerable articles written upon it, it is the one infectious disease that is on the increase, both in number of cases and in mortality. I make no pretention to anything startlingly original in this paper, but I hope I may be able to convince you that many of the beliefs, which were almost universal in the past and are still widely prevalent, as to the causes and treatment of pneumonia have been founded upon fallacies.

Etiology. Although pneumonia is occasionally due to infection with other bacteria, in this paper only the cases due to the pneumococcus of Frankel are considered. I don't intend to take up your time with a detailed account of this micro-organism, as such a description can be found in any text book on bacteriology, but I wish you to bear in mind the fact that its chosen habitat is in the human mouth. By a number of observers it has been demonstrated in the saliva of healthy individuals in from 15 to 40 per cent. of the cases examined. Outside the body the diplococci fall an easy prey to dryness and sunlight, existing only a few hours under these conditions; but under conditions of dampness and darkness, it retains its vitality for several months. This latter fact explains its endemic prevalence in the overcrowded, poorly lighted and poorly ventilated tenements in the larger cities. In the minds of the laymen there are few misconceptions more firmly fixed than that pneumonia is due to exposure to cold. They believe in it as firmly as they believe in ma-

ternal impressions, and I dare say that if we undertook to tell them of their mistake, many would laugh us to scorn, and with an expression of pity for our hopeless ignorance, tell us that we are bound to be wrong, because "didn't Bill Smith take down with pneumonia the very next day after he got wet and cold in putting up ice," and "didn't Mary Jones have the lung fever because she went out in the wet without her overshoes?" Gentlemen, pneumonia never was and never will be caused by exposure or "catching cold," it is a clearly marked infection due to a specific micro-organism and without the presence of these little bugs, rain, hail, sleet and snow are equally powerless to produce the disease. I grant you that where the germ is present, prolonged exposure to cold, by lowering the vital resistance and chilling the surface of the body by causing congestion of the lungs along with the other internal viscera, may act as contributing factors. But that these factors are of minor importance is proven by the statistics which show that in only 15 per cent of cases is there a history of "catching cold." It is stated that pneumonia is practically unknown in the Arctic region, while on the canal zone, from February 1st, 1906 to October 25, 1907, 574 cases were treated in the Ancon Hospital. If we study the subject more carefully we find that the ages at which pneumonia occurs most frequently, the two extremes of life, are the ages at which exposure is less, and again, while exposure is necessarily great in the country, pneumonia is distinctively a disease of the city. We have all doubtless often heard the expression—"This is mighty good weather for pneumonia." Which is usually applied to one of those cold dismal days, with a drizzling rain, overhead a leaden sky and under foot a slush of melting snow. How much truth is there in such a statement? According to my limited observation, and in my belief, very little. Statistics show that the greatest number of cases occur, not in the coldest weather, but in March, with April a close second. Since it is my opinion that exposure to cold plays only a minor part in the production of this disease, the question naturally arises, why then is it true that there is so little of it in summer. Simply because we get plenty of sunshine and plenty of fresh air day and night. The alcoholic, the patient with chronic Bright's and Diabetes, the feeble old man, or the sufferer from general debility are particularly prone to the development of pneumonia. One attack predisposes to another, it is endemic in certain buildings, occurs in epidemics and can be directly contagious.

I do not propose to go deeply into the

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pathology—as we all know it is an exudative inflammation of the air vesicles and bronchioles occurring in four stages, (1) congestion; (2) red hepatization; (3) gray hepatization, and (4) resolution. The point in pathology that I want to impress is that pneumonia is not merely a disease of the lungs, no more so than is typhoid a disease of the intestines. It is an acute infectious disease, and the lesions in the lungs are merely the local manifestations of a general infection. If I accomplish nothing else but the impression of this fact I will consider my paper well worth while, for it is the keynote to the whole situation. While the damage done in the lung is serious in itself, it is rare that a patient dies from asphyxia, most all fatal terminations being due to the overwhelming of the heart by the toxemia.

It is not necessary for me to dwell on the symptoms, the sudden chill, the rapid rise of temperature, the sharp pain in the side, the rapid shallow respiration, the flushed face, cough, brick-dust sputum and the physical signs of the various stages are all familiar to us. In such a typical case any layman of ordinary intelligence is able to make a diagnosis. It is in the children and old persons where our skill in making a diagnosis is often put to a test. In the former, the disease is often ushered in by a convulsion, the characteristic sputum is rarely seen, cerebral symptoms are common, and unless a careful physical examination is made it can be easily overlooked. In old people, pneumonia runs a peculiar and dangerous course, the onset is insidious; pain, cough, and expectoration may be entirely absent, temperature and physical signs are slight; the chief symptom is the profound prostration. A third type of cases in which care is required in the diagnosis, are the latent or central cases where physical signs at the surface are heard late or not at all, the pain and physical signs are absent, but the other symptoms are present. A microscopical examination of the sputum will be an aid in these cases.

Prophylaxis. In the prophylaxis of pneumonia we are sadly lacking for it is on the increase both in prevalence and in mortality, and in many of the larger cities heads the lists of fatal diseases. Probably one of the most important preventative measures is the proper hygiene of the mouth and nasopharynx, as it is doubtless from here that infection takes place. In the management of a case all sputum should be disinfected, and when the patient leaves the room it should be treated as after any other infectious disease. The more firmly we get the idea fixed in our minds that pneumonia is not "lung fever," but an acute infectious dis-

ease, the better we will be able to prevent it and treat it.

Treatment. The patient should be put to bed with just enough bed clothes to keep him warm and should receive plenty of fresh air. The "open air" treatment is comparatively a new thing and as is so often the case when a radical change is made from old to new the pendulum has swung too far in the direction of the new. Those who employ an unmodified open air treatment in every case regardless of the weather, are I believe entirely too radical. I cannot bring myself to believe that an extreme raw air is beneficial to such an inflamed lung as we have in pneumonia. We know that a bronchitis is a part of the pathological process and few of us would think of giving a patient with acute bronchitis from other cause the unmodified open air treatment regardless of the weather. I believe the best temperature for the patients is about 50°, and unless it is unusually cold, the windows can be kept wide open and the temperature of the room still be kept about 50 degrees, and so be comfortable for the nurse. At the outset a dose of calomel should be given and followed up the next morning by a saline, we thus clear out the intestinal tract and at the same time the depletion tends to relieve the congestion in the lungs. The pain is due to the involvement of the pleura and I have found the application of an ice bag to relieve it in most instances, occasionally this fails or is not well borne and a hot water bottle or mustard plaster may be used. If these simple measures fail there can be no objection to giving 1-4 gr. Morphine hypodermatically, it relieves the pain and also quiets the cough. When it comes to the question of the curative or beneficial effects of drugs upon the pathological processes of pneumonia there are many skeptics and not a few scoffers. I, however, believe in the administration of the carbonate of eosote, it is in no sense a specific as has been claimed by some enthusiasts, but I feel sure it does some good; it must be given in larger doses however than ordinarily advised, 30-40 minims should be given every three or four hours. The high temperature is only a temporary affair and is not going to do much damage; it is well, however, to keep it down with cold sponge baths, especially if the patient is restless; an ice cap is also very useful. I recently read an article in one of our best medical journals in which a doctor writing on pneumonia advised the giving of the coal tar derivatives (in his own words), "in doses sufficiently large to reduce the temperature." Any man who is fool enough to do such a thing will reduce the population as well as the tempera-

ture. As the heart is the chief danger, we must watch it carefully; every time we see the case we should get out our stethoscope and listen carefully to the heart, and especially over the pulmonary valve area, and when the pulmonary second sound becomes much accentuated, we know that the first danger signal had been given us, and then when it begins to weaken we can regard it as a final cry for help. And when the heart needs stimulation—stimulate it, and not before. To meet this particular indication I believe strychnine to be the most valuable drug which we possess. Shall we use whiskey or shall we not? I have not yet been able to settle this question satisfactorily in my own mind. Representing as I do the younger school in medicine, I am naturally very skeptical as to the therapeutie value of whiskey in pneumonia. It most certainly is not a heart stimulant, but it has been used so long and there is such an abundance of evidence as to its clinical value that it seems like the rankest heresy to question its usefulness. Digitalis is also widely used, but is of doubtful value. I mention nitroglycerine merely to condemn it; it is a vaso-dilator, not a cardiac stimulant, and should not be used when the heart needs stimulation. Aromatic Spts. of Ammonia is of real value but if used should be frequently repeated as its effects last only a short time. At the recent meeting of the A. M. A., at Atlantic City, Dr. Foreheimer, of Cincinnati, read a paper on the Cardiac and Vascular Complications of Pneumonia, in which he stated that, "Given a normal heart the commonest cause of pneumonia death was vasomotor paralysis" and not failure of the right heart. For the former condition he recommends saline solution and adrenalin and for the latter, venesection.

I am satisfied that I have saved several cases by the use of normal saline solution by hypodermoclysis. Elimination from the bowels and kidneys should be kept up in order to rid the system of the toxins. The diet should be liquid. The local treatment of the chest should be *nil*. To me the most absurd thing in all therapeutics is the application of poultices, etc., to the chest wall in pneumonia. Let me quote two distinguished gentlemen on this subject. Dr. Woods Hutchinson says: "Diseases of definite organs are most commonly the local expressions of general diseases or infections, and this local aggravation of the disease would never have occurred if the general resisting power and vigor of the entire body had not been depressed below par. So that even in guarding against or curing a disease of a particular organ, it is necessary to consider and to treat the whole body. Nowhere

is this new attitude better illustrated than in pneumonia. Frank and unquestioned infection as it is, reeking 2-3 of its visible damage in the lung itself, the liability of its occurrence and the outlook for its cure depend almost wholly upon the vigor and rallying power of the entire body. It is perfectly idle to endeavor to avoid it by means directed toward the protection of the lungs or air passages and equally futile to attempt to arrest its course by treatment directed to the lungs or even to the chest. The best place to wear a chest protector is on the soles of the feet and poulticing the chest for pneumonia, is about as effective as shampooing the scalp for brain fog."

In referring to the local treatment in children Caille says: "The writer has not observed any special benefit from the wearing of an oil silk jacket or a poultice. Such a contrivance is more soothing to an anxious mother than to a feverish child."

I have quoted these men to show you the position of the profession today in regard to local treatment. I could quote many more, but what's the use? Let us work our own minds. Here, let us say we have a patient with pneumonia, the poor fellow is burning up and restless with the high fever and is having a hard enough time to get sufficient air into and out his lungs. Along comes the doctor and plasters two pounds of hot antiphlogistine on his chest, covers this with a thick layer of cotton and then puts on a bandage—and the result of it all is that the patient's temperature is kept up or increased and his breathing rendered even more difficult. To me it is simply absurd. A few years back no one thought of treating pneumonia without the jacket or poultices and whiskey, at present the poultice is practically a thing of the past and whiskey is being used less every day. A few years hence we will no more think of poulticing the chest for pneumonia than at present we would think of poulticing the abdomen for typhoid.

Quinine which has been used extensively has recently been proven on the Canal Zone, not only to be of no benefit, but to do actual harm. The serum treatment, hailed at first with enthusiasm, has proven rather disappointing, but the opsonic treatment, while it is still too, a new thing for us to form a correct estimate of its real value, is promising to say the least.

The *Bacillus fecalis alealigenes* in **Human Pathology**.—Hamm's patient was a primipara of 29 with fatal puerperal pyelonephritis and peritonitis with this bacillus in pure cultures in the urine and pus.

DIPHTHERIA. — PROPHYLAXIS AND TREATMENT.*

BY O. B. DEMAREE, FRANKFORT.

In order to make my paper short I have refrained from all mention of the etiology and diagnosis of diphtheria. I take it that there are none among you unacquainted with the causation of this disease. I also take it for granted that you are careful in your early diagnosis; for, the importance of the latter can not be over-estimated.

In dealing with the prophylaxis and treatment it shall be my endeavor to be as explicit as possible; for, if there is any one subject that the profession as well as the general public should be familiar with it is the prevention and cure of diphtheria. If we could have a careful medical inspection of our schools, in order that children suffering from mild attacks of diphtheria might be isolated at their homes it would be one of the most important measures in prophylaxis. We know that it is often the mild cases that cause a spread of the disease. It would be a good rule to call a physician in every case of sore-throat in a child, no matter how mild the attack. It is only by knowing early that we can hope to prevent a further spread of the disease and institute prompt and efficient treatment.

If the patient is given the best possible chance with our modern method of treatment, few fatalities need occur. Every case of doubtful sore-throat should be isolated, and it is equally as important to isolate every child who has a profuse nasal discharge until a diagnosis can be definitely made. A patient ill with diphtheria should be placed in an upper room of the house, or as far away from other children as possible. All hangings, extra furniture and carpets, should be removed from the sick-room. If possible only one person should nurse the patient. Thorough cleanliness and disinfection should be maintained throughout the disease. All discharges from the patient should be disinfected at once by a corrosive sublimate, or carbolic acid solution. All pieces of cloth or cotton used to receive the discharges should be burned. All utensils should be thoroughly sterilized with boiling water.

The room should be well ventilated, and exposed to the sun-light if possible. The importance of pure air, and plenty of sun-light in the sick-room can not be over-estimated. The burning of sulphur in a room where a patient is ill should not be allowed; the reasons are too obvious to require explanation. After the patient has recovered, every article in the room, including mat-

tresses, blankets and quilts, should be thoroughly disinfected by formaldehyd. The burning of sulphur candles as a substitute for formaldehyd, is a reprehensible habit that can not be too fully condemned. Steam under pressure, when it can be had, is one of the safest methods in disinfecting mattresses, wearing apparel and carpets.

TREATMENT.

While alcoholic stimulants, digitalis and strychnia, will continue to hold their places; antitoxin, is by far the most important agent we possess in the treatment of diphtheria. Antoxin should be administered as early in the disease as possible, and in sufficient dose to yield results. I believe I have the distinction of being the first physician in Franklin County to use antitoxin; this was in December, 1895. 3000 units at that time, was regarded as a large dose. Experience in the use of antitoxin, leads me to believe that a too common mistake made is the small and often repeated dose. 4000 or 5000 units should be given as the initial dose in all cases of diphtheria, and 1000 or 2000 units when used as a prophylactic. The general condition of the patient, and the effects of the antitoxin should be closely watched. At the expiration of eighteen or twenty hours, if the dose of antitoxin has been sufficient, the membrane should commence to roll up at the edges, and the swelling of the cervical glands should be diminishing, the nasal discharge less profuse, and with less septic odor. If the reverse condition of affairs exist, the large dose should be repeated. One point I wish to emphasize, it is never too late to give antitoxin a trial, even in the most desperate cases.

The technique of administration is of sufficient importance to require description. My choice of site of injection is the part just above the left hip. The parts are first thoroughly cleansed with soap and hot water; the skin rubbed dry with a rough towel. Alcohol is then freely applied and the parts wiped dry with absorbent cotton. The point of selection is now anesthetized with a solution of carbolic acid 1-20 applied on absorbent cotton which is allowed to remain until the skin is whitened. The needle is introduced horizontally into the muscular portion to the depth of half an inch and the piston of the syringe slowly compressed until all the serum has passed in. A strip of Z O adhesive plaster is applied to close the puncture in the skin, the operation being complete.

I have never had an infection, or an abscess following the injection of antitoxin. I am constrained to believe that the ill effects following the use of antitoxin that we sometimes hear of are greatly exaggerated. The

* Read before the Franklin County Medical Society.

various eruptions spoken of are never of a serious nature. The joint-pains mentioned have never occurred in any of my cases.

It has also been claimed that albuminuria is caused by the use of antitoxin, such, in my opinion is never the case. Albuminuria frequently occurs during an attack of diphtheria long before antitoxin has been used. It is now the opinion of the best authorities on the subject that it is the toxin of diphtheria that causes albuminuria when present, and not the effects of antitoxin. In conclusion; we know that diphtheria is a depressing disease, we know that antitoxin is stimulating in its effects, never depressing! It can confidently be said that we have in antitoxin a life-saving agent in diphtheria of untold value. It does not cause albuminuria, its use does not predispose to paralysis, and the eruptions and joint-pains that sometimes follows its administration are not of sufficient importance to preclude its use.

ADENOIDS—THE CAUSE OF THE DEFORMED ALVEOLAR ARCH.*

By J. D. KISER, LEXINGTON.

On commencing work in an out patient department in one of the large hospitals in Philadelphia, I was impressed with the preponderance of cases complaining of nasal obstruction, and in a large per cent we were confronted with a peculiar condition of development known as adenoid faces; and I wish to confine my remarks to the subject of adenoids, their natural history and the consequences of their presence.

I believe it is the opinion of all reputable rhinologists that adenoid growths consist of lymphoid tissue, and that they are produced by an over-growth of a normal deposit of that tissue, which is present in the vault and posterior wall of the nasopharynx. The growths are comparable to the enlarged tonsil which many of you have examined, but they have some peculiar anatomical features, and without any other knowledge of the matter would convince us that they are really produced by hyperplasia of some normal structure and that they are not in any sense true tumors. Examine a dozen adenoids, removed in mass you find that they all conform to one type, and in a greater or less degree they resemble a half walnut with the shell removed. This mass is made up of leaves separated by clefts which are arranged vertically and obliquely. This type varies in some respects at different periods of life. "Early cases the leaves are replaced by ridges and the appearance is rather that of a chest-

nut." Late cases after puberty, you may find an almost smooth semi-globular mass or tumor. If you are in a position to watch these cases, you will find that these growths vary in size considerably week by week, and if not already large enough to cause secondary effects, it will greatly diminish in warm weather. When the child has a coryza you will find the adenoids swollen, soft and soggy to the touch and may discharge mucus from their clefts. This condition may lead one to think these growths merely represent a normal mass of lymphoid tissue in a state of inflammatory hyperplasia, and the inflammatory phenomenon of which the adenoid's presence forms a part, is chronic or recurrent nasal catarrh. But our knowledge in regard to this form of nasal catarrh is limited; although no longer than 1906-7 this theory created quite a controversy in the laryngological journals with no definite conclusion, except two points were very clearly demonstrated by the bacteriologists. One is that you can find in the upper posterior region of the normal nose few micro-organisms capable of growth upon an ordinary nutriment media. The other is that the discharge of an acute coryza of a few hours old is loaded with micro-organisms.

Acute colds which I believe play an important part in the growth of adenoids, are contracted either by chill or infection. You no doubt have noticed, after returning from the top of a mountain to the city or valley, members of the party are regularly attacked with cold, and why this should be the case we do not know, but our knowledge of immunity and vaccination has led us to believe that there is a shortage of the protective substance, and the increased bacteria of the only find a suitable soil to propagate.

But we are all forced to admit that acute nasal catarrh is much more commonly the result of a chill. If you doubt, choose a moment when your nose feels well. Sit in an overheated room with thin socks upon your feet, open the window and allow the draught to slowly chill your ankles. Inside of an hour you will find the nose blocked and a heaving dragging weight about the eyes, shortly the nose will begin to run clear fluid containing micro-organisms in small clumps.

The draughts of air seem to have destroyed the protective mechanisms of the nose and allowed the bacteria, which are deposited by the inhaled air, to gain a foot-hold and multiply.

It may be that the secretion at first is free from bacteria, but coming in contact with the air some unknown chemical change takes place which renders the soil susceptible to the growth of germs. Just where the

* Read before the Fayette County Medical Society

breakdown in the protection occurs has not been settled. The cilia are more than likely to be one of the protective mechanisms against cold. When healthy they constantly sweep the film of fluid covering the mucous membrane back into the throat, keeping the bacteria constantly on the move, probably giving them no time to breed.

It is true if a cold has started the cilia may work ever so hard they can not stop the overflow of this watery secretion. It may be that the blood constituents are so changed that the invading germs overpower the defensive leucocytes. No doubt you have noticed while sitting in the cold you have a natural tendency to take shallow inspirations with a rigid chest wall. This fact may have something to do with the swollen mucous membrane which blocks the nose. But if you will take two dozen long, deep inspirations expanding the chest to its full extent, or take some brisk exercise, you will find that the nose will become clear and pervious. This is a point worth remembering. If you will take deep breathing you may undergo long exposure, and whatever may be the cause of a cold it may be prevented or cut short by deep breathing and violent exercise, and some forms of catarrh may be cured by exercise. It is a peculiar thing, but take the soldiers while under tent, working day after day, may be wet the entire day, sleeping in mud, but you will never see a man with a cold in the head.

Waggett of London, during a Christmas walking tour through Cornwall says: "He scarcely saw a child with a cold or evidence of adenoids," and a careful inspection of a large convent school in Florence, saw only two or three cases of adenoid faces. This no doubt was under a favorite climatic condition, where adenoids are not so numerous.

It has been claimed by some that this disease is hereditary, and some have gone so far as to brand it a racial degeneracy, which is a difficult task to prove that these influences do not play as important role, but it is the opinion of many rhinologists, which we believe to be the most plausible theory, that adenoid vegetation is caused by repeated "nasal catarrh."

How often have we seen children with the snuffles, who have never learned effectually to blow their noses. They should be taught the right method of blowing the nose, which is to close first one, then the other nostril, expelling all collected mucous in the inferior meatus by a prolonged blast of air through the free nostril.

All adenoids should be removed before a child goes through the second dentition with nasal obstruction; if not removed he may

bear the marks of neglect the remainder of his life, and let us here impress upon the parents, that a child, however young, who has frequent running of the nose, and who habitually sniffs is most certain to have nasal obstruction, probably due to adenoids. We should not forget that the typical adenoid face is not seen until the changes of the alveolar arch has begun. The arch has to expand to make room for the eruption and growth of the permanent teeth. This change takes place about the age of seven years, which is from a short, chubby, infantile physiognomy and makes rapid progress and any interference with its development will leave a very obvious mark in a short time.

We may not understand the nature that produces the elongated adult face, but the removal of an important factor from the equation will upset the balance and change the result. I mean the tongue which is an organ of great muscular power and untiring energy; if you doubt allow a month old infant to suck your finger, you will be surprised at the strength and force these muscles can command even in the first month of life.

You are aware the tongue does most of the work in mastication by pressing the food through the teeth and against the hard palate. "The tongue no doubt is the dominant organ of the face; the jaws being the junior partners in the firm." If you will take notice the tongue does not lie flaccid upon the floors of the mouth. It is in a state of the tonus, pressing firmly against the upper teeth and anterior palate, and this constant pressure must have something to do with the moulding and shaping of the growing bones of the face. If the mouth be held open the greater part of the time and the lower jaw dropped, the tongue is no longer in contact with the upper jaw, thus the moral equation is upset and deformity is the result. The constant outward pressure of the tongue is lacking while the inward pressure of the cheeks has persisted and no doubt been augmented by the dropping of the lower jaw and consequently the arch has lost its lateral expansion and narrowing is the result, thereby not leaving room for the natural eruption and growth of the teeth, so the laterals and canines erupt behind and in front of the normal line.

This inward pressure on the alveolar arch has resulted in narrowing the whole facial skeleton, and this defect is particularly marked in the nasal fossae where we find a normally developed turbinate body which we can scarcely accuse of disease, and yet one that is constantly obstructing the normal drainage from the sinuses and leading to

secondary defects such as impaired hearing and chronic catarrh of throat and nose.

The pronounced symptoms that accompany the above named deformity are mouth breathing, deposits about the teeth, hypertrophied and inflamed tonsils, and may have enlarged cervical glands. We must bear in mind that the continued obstructed nasal breathing is the predisposing cause of chest deformity. It is with great difficulty air is drawn through the narrowed nasal passage and this labored breathing will finally and permanently alter the thoracic portion of the body.

The deformity consists of a shallow groove upon either side of the sternum, following the costal cartilages down and out and producing pigeon-breast. If nasal obstruction commences later you will find a flat ill-developed chest, indrawing of lower sternum. This may be accompanied with enuresis and unrefreshing sleep due to sub-oxygenation, which is responsible for laryngeal stridor and convulsive attacks of the little sufferer, who often wakes in terror from evil dreams. Gentlemen, the lack of refreshing sleep often accounts for an unlearned morning's lesson, and the efforts of the teacher are often thrown away upon a listless and inattentive pupil, who is unable to concentrate his mind upon his lesson. Most of those children have a form of mental derangement called "arresxia," and added to this condition there may be partial or total deafness. All children who have a defective hearing or who have suffered with earache, should be examined by a competent otologist. In the early stages, nasal obstruction only becomes marked on the advent of a fresh nasal catarrh or during the hyperplasia of the mucous membrane of the nose, and as the thickening takes place the resonance of the voice is lost, "em and en" can not be clearly pronounced. The nose is no longer used for respiration, and the muscles that normally keep the nostrils open by their action upon the alar cartilage lose their tone and allow the lower edge of the triangular cartilage to fall in against the septum and the alar cartilage to drop. The cartilaginous portion of the nose looks small, narrow and dimpled at the side, and his condition coupled with half open mouth and tired vacant eyes, giving rise to a stupid, sullen appearance, which has robbed the child of an intellectual mind, symmetrical features, engaging beauty, as well as quality of childhood. Lost through the neglect of parents, teachers, dentists and I must reluctantly add, the doctor. This goes to augment the grave responsibility of the medical and dental professions, which is allowing so many children to grow up into defective specimens of humanity.

It is more satisfactory to tell the parents that the removal of all adenoids does not restore the child to normal respiration, health and hearing, for in a certain number an abnormal development of the facial bones has already taken place and traces of this mal-development will persist and more or less trouble will result from it through life, unless the orthodontist is qualified to correct the deformity by working in conjunction with the rhinologist, and there is no doubt in my mind, after the rhinologist has cleared the nasal passages and throat of all pathological deformity the orthodontic treatment should commence in all contracted alveolar arches or where we have a mal-occlusion or irregular teeth. This treatment should be early, and at a time when by gentle stimulus and pressure he may assist nature in bringing about a normal development, not only of the dental arches, but of the underlying structures, such as the superior maxillary bone and probably the cramped and S shaped septum, securing a full and normal development of the nasal passages. When this is accomplished, we aid the patient particularly while sleeping in keeping his mouth closed. It is true we may have mouth breathing after the rhinologist has removed all adenoid or pathological tissue in the post nasopharynx and nose, and this may be purely from "habit," and there may be still lack of nasal capacity which is insufficient for normal respiratory purposes. It is at this point we find ourselves practically helpless, except such benefits as may be gained by soothing applications to the nares, and breathing exercises, and trust to nature to restore the damaged parts. It is here the orthodontic treatment in conjunction with the rhinological can be of great service. No doubt by the orthodontic appliances they can and will assist nature in widening the contracted alveolar arches, by placing the teeth in their normal position, if this is not done we will often have an unsatisfactory occlusion of the teeth, as well as a contracted arch and insufficient nasal space, but if this treatment is skillfully carried out it will aid nature in restoring the patient to normal breathing and health.

Now in conclusion let us impress upon the parents that all adenoids should be removed in their early stages, and when necessary following up by orthodontic treatment, and, unless this impression bears fruit a very large per cent of the children will continue to fall far short of their natural development in mind and body, and many men and women will fill and continue to fill the out-patient

department of our hospitals, complaining of more or less trouble of ears, nose and throat, due to neglect.

INFLUENZA.*

By W. A. McKENNEY, FALMOUTH.

Having been assigned Epidemic Catarrh, Grippe or Influenza, and while it is a very common disease, I feel incompetent for the task. This disease is not to be regarded as simply a common catarrh, but as a specific affection, an epidemic disease, characterized by a catarrhal inflammation of the respiratory organs, and sometimes of the digestive organs, and accompanied by great nervous debility, out of proportion to the intensity of the fever, being accompanied by neuralgic and muscular pains almost unbearable.

The disease is due to the bacillus influenza, and its duration is from a few days to one or two weeks, the relapses are frequent, the patient being left weak for a long time subject to complications. Pepper says about the first accurate description of this disease dates back to about the sixteenth century. Since then there have been frequent epidemics, not a few of which have spread rapidly over entire continents and have appeared almost simultaneously in widely distant countries. There is said to be no anatomical lesions characteristic of the disease.

The germ now regarded as associated in the production of the disease, are found in the sputum, the tissue of the lungs and the blood. It is said the identity of the different types of Grippe is shown by the fact that all may be illustrated in a single family at the same time, that any one may be contracted by contact with a patient suffering with another type and the symptoms of one form become associated with the fully developed features of another type, as the case assumes additional gravity. The most frequent complications are those connected with the respiratory organs. Pneumonia, both erupous and catarrhal is a frequent complication; in some cases the attack begins as one of severe infectious fever with rapid breathing, and in two or three days the signs of pneumonia become manifest; there may not be but a slight cough and expectoration almost absent, though the pneumonic area extensive pulmonary phthisis is to be regarded among the sequels, and chronic gastro-intestinal catarrh is liable, persist with impairment. Persistent headache, insomnia and neuralgia, melancholia, impairment of mental power, and even mania, are sequels. Epi-

demie catarrh does not wait for you to get home from a visit to call, but meets you on the way and accompanies you home.

As to treatment, no reliable means of prevention are known. Rest in bed should be insisted upon until convalescence is established, as it is said most of the mortality may be traced to a neglect of this rule. Care should be taken to avoid draughts or sudden changes of temperature in the sick room, and try to avoid complication by proper nursing, and as some of our great writers have said, support the system, relieve suffering, secure sleep, allay cough and control fever; when we have done that, we have done a great deal for our patients, but we do not always get such good results, that is, as soon as we would like. A full dose, or a few fractional doses of calomel, as the case demands, should be given. The diet should be as supporting as digestion will admit and have a hot foot-bath at night. If the cough be troublesome, or if there are pains in the chest, sinapism may be applied, giving small or medium size doses of quinine every four to six hours, giving strychnine every six to eight hours. If the fever is very high and severe headache and pains in limbs. I frequently give a powder of acetanilid, watching its effect. I give one of the ammonias—muriate or carbonate—every four hours, giving fractional doses of calomel whenever I think necessary. In the latter stages when there is not much fever there is nothing that I have found that will cause more expectoration than some good whiskey in the form of a toddy. Should complications occur, treat as such.

TUMOR OF THE PAROTID GLAND.

By J. GARLAND SHERRILL, LOUISVILLE.

Recently a most interesting case of tumor of the parotid came under our observation, and when first seen it had assumed such large proportions that some very competent observers considered it to be inoperable. The result in the case has been so satisfactory that it should lead us to be careful not to draw too hasty conclusions in cases of this kind. It is especially to call your attention to the possibility of the successful removal of very large tumors of the parotid gland that we have been induced to present this report.

This patient was a man, thirty-six years of age who gave the following history:

His trouble began ten years ago as a small nodule the size of a pea on the right side of the neck posterior to the angle of the jaw. It grew slowly and when the size of a small egg (about six years ago) it was removed. Soon

*Read before the Pendleton County Medical Society.

after this he again noticed a tumor in the same region. We suspected that the operation he described was upon the parotid gland, or at least in that region, but have since learned from his attendant that a few enlarged cervical glands were removed. The growth increased somewhat in size and four years ago was treated with the X-ray. It continued to grow slowly and steadily at first, but within the last few months quite a rapid growth was noticed and at present (October 24, 1908,) the mass is about the size of a coconut, extending well up on the face, pushing up the lobe of the ear and extending forward to within about an inch of the chin and well under the margin of the jaw. The skin over the tumor is somewhat reddened and covered with small vessels; shows some pigmentation, and is glazed on the surface apparently from the tension of the tumor. The scar of the former operation could be seen near the middle of the skin covering the tumor.

Examination of the throat showed that the growth extended well into the neck, pushing the palate forward and the lateral wall of the pharynx inside almost to the median line; the mucous membrane of the pharynx did not seem to be involved.

The patient had not lost any flesh and appeared to be well nourished, and while the suspicion of malignancy was strong, I reasoned that if malignant degeneration must have been recent, the growth probably having been benign in the beginning and later undergone malignant change. However, a tentative diagnosis of malignancy was made. The feel of the tumor was dense and yet fluctuant, the lobule palpable through the throat and well rounded and about the size of a hen's egg.

The dangers of the operation and the possibility of recurrence, if malignant, were fully explained to the patient.

On November 6, 1908, the tumor was removed under chloroform anesthesia. An incision beginning just above the tragus was made down in front of the ear to the angle of the jaw, and forward beneath the jaw almost to the symphysis. To this was joined a short incision posterior to the ear. The facial and inferior maxillary veins were tied just before their junction; the facial arteries also doubly ligated and a careful dissection made down the sheath of the tumor. The digastric muscle was not cut, but was retracted; the tumor was freely loosened from its inferior attachments, the fascia overlying it pushed forward to in front of the ear to avoid damage to the facial nerve as much as possible. After this was accomplished the skin on the front of the tumor was dissected free and the upper portion of the tumor care-

fully exposed; removal was then accomplished without any great difficulty, the carotid artery being tied just below the parotid gland. Prior to the removal of the tumor the submaxillary gland was extirpated, and following the removal of the largest mass a second nodule which lay against the wall of the pharynx was easily shelled out by the blunt dissection. In addition to the growth itself a number of small lymphatic glands were removed. The hemorrhage was rather readily controlled with the exception of some oozing at the posterior border of the masseter muscle where a small nodule was situated. A considerable portion of the skin was removed showing some marks of infiltration. The wound was then closed by a continuous suture of chromic catgut, and the patient left the table in first-class condition.

On the eleventh day the patient left the hospital with the wound completely healed and everything in good condition.

The photographs presented herewith show very well the appearance of this patient before operation, and also the small amount of deformity resulting from the removal of the growth. There was a very slight drooping of the angle of the mouth immediately following the operation from damage done to the lower branches of the facial nerve. This, however, was not of very great importance. The tumor after removal.

ACNE TREATED BY STAPHYLO-BACTERIN. (MULFORD.)

By H. E. McCORD, LUDLOW.

Mr. H. M. ———. Family history very good. Had all diseases of childhood except whooping cough. Diphtheria at six years followed by temporary paralysis of third nerve, with loss of accommodation. No history of venereals.

At about fourteen started to have a few pimples over face and neck, which continued to spread until about twenty and had been about the same until twenty-five years of age, about September, 1908. At this time, face, neck and shoulders were covered with acne and blackheads. Pores of skin were large. Skin seemed oily. Microscopic examination of pus showed presumably staphylococcal bacteria of some kind. No culture was made.

Previous treatment included arsenic, iron, local washes of alum alcohol, salicylic; soap and water opening pustules when pus was present.

September 14, started to use stock staphylo bacterin. Injected 100,000,000, which caused a rise in temperature, 1.5 degrees in about three hours, with no other result. Used three more injections at intervals of a week or ten

days with very slight general results. Caused a rise of about .5 degrees in two injections. I could see no change for first four weeks and so stopped use of bacterin and from then the conditions started to improve and continued to improve for some time.

February, 1909, started with four more injections which caused a rather pronounced local reaction of tenderness around place of injection. Used these four injections at intervals of one to three weeks. Think the local reaction was due to the preservative in bacterin. I did not notice much improvement from this preparation at this time.

June 17th, 1909, started another series of injections as follows: June 17th, July 3rd, 15th, 21st., and August 13th. Results: Almost complete disappearance of aene.

May state that aene was always very much worse during summers of previous years.

Doses range from 100,000,000 to 1,000,000,000; killed bacteria at an injection.

Above ease reported because results were very good, and may be of interest to readers.

LA GRIPPE.*

J. ERNEST FOX, M. D., MARION.

The advent of winter naturally brings us face to face with the diseases which characterize this season of the year. Since the fateful reappearance of La Grippe two decades ago, it has remained with us, always attacking many patients each year and leaving in its train that profound depression which has added to the yearly mortality.

Synonyms.—Influenza and Epidemic Catarrhal Fever.

La Grippe is an acute infectious disease caused by the Pfeiffer bacillus. Its chief symptoms are due to the catarrhal inflammation of the respiratory and digestive tracts, together with profound muscular and nervous prostration. Delirium is not infrequent and grave complications often present themselves.

The disease may be sporadic, though oftener it prevails in an endemic or epidemic form.

The first epidemic of the disease appeared in America in 1647. The last true pandemic of the affection reached the United States in December, 1889, and rapidly multiplied into an explosive epidemic.

Symptoms.—After an incubation from one to four days, the disease sets in abruptly with chilliness or a severe rigor. The temperature is extremely variable, running from 100 to 105 degrees. There are in almost all cases severe headache and general aching,

with a degree of prostration out of proportion to the apparent cause.

As a rule adults are more susceptible to the affection than children. Nursing infants at the breast are fairly immune.

There are three general types of the disease depending upon whether the germ attacks the nervous, the respiratory, or the gastrointestinal system. The symptomatology of the disease is variegated, and one symptom may quickly merge into another which renders the diagnosis at times difficult.

Respiratory Form.—The early symptoms are those of a severe coryza. Usually pharyngitis, laryngo-tracheitis, and bronchitis follow. The general aching and extreme weakness may be the only distinguishing characteristics. Frequently a slight patchy broncho-pneumonia, with few physical signs coexist.

Nervous Form.—In many cases slight fever, with atrocious headache, pain in back and limbs are the only symptoms.

Gastro-Intestinal Form.—In some cases vomiting, abdominal pain, diarrhoea, with prostration may constitute the evidences of the disease. In some instances there may be a continued fever, with delirium, dry, brown tongue, and other symptoms closely simulating Typhoid fever. We may usually exclude Typhoid fever by the absence of the regular temperature curve and rose spots, but the Widal reaction and a microscopical examination showing the presence of the Pfeiffer bacilli positively excludes Typhoid fever.

Without attempting to give an exhaustive analysis of the many symptoms not included in the above list a little time may be devoted to the complications and sequelae.

An important point for consideration is the irritable state of the mucous membrane of the bronchi which persists after the disease is apparently cured. Often we see patients who have a long continued cough following an attack of La Grippe and frequently there is no relief for the cough unless it be a change of residence to a warm, dry climate.

This vulnerability of the mucous membrane is responsible for the onset of tuberculosis. We call to mind the case history of many tubercular patients who date their first illness to a previous attack of influenza. Statistics show that the morbidity of tuberculosis has been increased by this disease.

Broncho-pneumonia is one of the most common complications. Lobar pneumonia and pleurisy, terminating in empyema, are occasional complications. Tachycardia, bradycardia, or persistent irregularity of the pulse, and angina pectoris, without discoverable organic changes, temporary and recov-

* Read before the Crittenden County Medical Society.

erable are sometimes observed. Endocarditis rarely occurs unless there has been a preceding rheumatism. Pericarditis, myocarditis, and other heart lesions may be found. Acute otitis media is common, terminating occasionally in mastoiditis and vertigo as a result of labyrinthine disease. Symptoms of meningitis which disappear in a day or two are common, but true meningitis is a very rare complication. Various forms of neuritis are not infrequent. Haematuria, acute congestion and acute nephritis are not extremely rare. Herpes is frequently seen; occasionally erythema and purpuric spots are seen. To name all the occasional complications of La Grippe is to enumerate almost all diseases to which the flesh is heir.

Space and time forbid us from considering the differential diagnosis. It seems to be a custom with physicians to name any ailment during the winter months, that positively can not be labeled something else, La Grippe, as those of the summer malarial fever.

The prognosis of uncomplicated cases is good, but many and oftentimes dangerous sequelae cannot be anticipated.

The treatment is entirely symptomatic and consists in the administration of those drugs which promote elimination by the skin, kidneys and bowel, relieve pain, sustain the vital functions until the imminency of the attack has subsided, and by continuous rest, stimulants, and perfect hygiene, prevent complications if possible.

The patient should be isolated from the other members of the family.

When I see a patient during the first few hours of the attack, I prefer a mixture of aconite, spirits of nitrous ether, and a solution of potassium citrate, with the latter in the dose of ten grains.

I also direct the patient to use a nasal douche of Dobell's Solution or liquor antisepticus alkalinus N. F. three or four times per day, in belief that it markedly prevents catarrhal symptoms usually seen, and with the expectation that it will prevent the severity of the symptoms. Constipation if present calls for laxatives. At bedtime the patient takes a ten-grain Dover's powder.

If the case goes on for forty-eight hours or if not seen until that time has elapsed, I find the following, as suggested by Frazier, an excellent combination: Quinine sulphate ʒss , Salol ʒss , P.V. Dover ʒss , Caffeine citrated gr. xv. M. ft. caps. No. 15. Sig.—One every two, three, or four hours according to indications.

Quinine is a valuable agent in this stage of the disease, but as stated by Barbour, the

deleterious action of large doses of quinine upon the nervous system, and also upon inflammation of the middle ear, should make us cautious in administering it. Broadbent dissents from this belief as he considers quinine the best remedy in influenza. As a prophylactic he gives two grains every morning during the epidemic. For the cure of patients his usual prescription is: Ammoniated quinine ʒi and liquor ammoniac acetatis ʒij , every hour for three hours and then every four hours. In the fulminating variety in which the patient has become catatonic, he states that hydrobromate of quinine in large doses completely relieves the patient.

Strychnia, if indicated, should be given and the dose must be regulated by indications. In many instances, as pointed out by Hare, strychnia is often given in a much smaller dose than safety requires and that it fails to act because the doses are too small to overcome the profound condition of exhaustion which is present.

Alcohol is always contraindicated and should never be used, except possibly in milk-punches and eggnoggs during convalescence.

If fever becomes excessive it is better to resort to cold bathing instead of antipyretics. The coal-tar derivatives must never be used as antipyretics, but are valuable agents for the relief of pain. The dose must be small to prevent depression of the heart.

Creosote carbonate is a useful agent in this disease as an intestinal antiseptic, expectorant, and alterative.

There is no disease that requires more therapeutic skill to treat successfully than La Grippe.

Diagnostic Value of Tuberculin in Orthopedic Surgery.—W. S. Baer and H. W. Kennard (Johns Hopkins Hospital Bulletin, January, 1905) believe that their own work, in competition of that of others, justifies the following conclusions: Tuberculin is the most reliable diagnostic agent for incipient tuberculosis of bones and joints. Its proper administration is attended by no permanent harmful effects. The dosage is variable and it is rarely necessary to exceed a dose of 6 mg. The local signs are of equal, if not of greater importance than the general reaction in the bone and joint tuberculosis. Tuberculosis practically always reacts to tuberculin. Diseases other than tuberculosis may possibly react to tuberculin, but the evidence on this point is not conclusive. The diagnosis can be made earlier and with more certainty by tuberculin than by radiography.—H. M.

DIFFERENTIAL DIAGNOSIS OF SMALLPOX, VACCINATION AND QUARANTINE.*

By H. P. SIGHTS, PADUCAH.

The importance of a correct diagnosis of this disease has been impressed very forcibly upon me since serving as Health Officer in this City. Some of the difficulties in making a correct diagnosis have been presented to me in this short experience; proving the necessity of accuracy in diagnosis. Osler says, "Variola is an acute infectious disease, characterized by a sudden onset and an initial stage of three days, followed by a cutaneous eruption. Papules of vesicles and pustulae, which are seated within the epidermis, the onset is usually with a chill, followed by high fever, severe headache, and backache, and lumbar pains." You can see at once in diagnosing in the first three days the difficulty of these symptoms, a chill, high fever headache and backache, which is the onset of many of the acute disease, and since the vaccination has modified smallpox, these symptoms are not exaggerated and may be taken for a malaria, grippe, etc. Like all contagious maladies, epidemics of smallpox differ one from another, sometimes the disease is so light at first it is overlooked; not only is this true in the character of eruption, but also the character and intensity of the symptoms. Notwithstanding these mild symptoms of the disease it is a something to be dreaded, even in a mild form, for so often the sequelae takes the patient off in a few months after a recovery of the disease itself. MacCauley, the great English Historian, says of this disease: "Before vaccination the havoc of the plague had been more rapid, but the plague visited our shores only once within living memory, but the smallpox was always present, filling the churchyard with corpses, leaving on those whose lives were spared, the hideous traces of its power, turning the babe into a changeling, at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to her lover." Rosen says, "One tenth of the deaths in Sweden resulted from smallpox."

It is estimated before vaccination there was one-half million deaths in Europe annually from smallpox, and in the 16th century there were three million and a half deaths in Mexico from this dreaded disease, proving how powerless medical aid was in saving life in these epidemics before vaccination.

Coming back to the question of diagnosis, the future will be presented by more diffi-

culties in diagnosing the symptoms of this disease, than in the past, owing to the mildness of the disease as it gradually disappears before the advance of the civilized effort of the medical profession to blot it out; therefore we should observe very closely any suspicious form of eruption.

I will first examine the different types of smallpox, as classified by modern writers: They are, the discrete, confluent, hemorrhagic and modified variola, four varieties in all; however, the Chinese describe forty varieties, and the old English writers, twenty varieties, showing the possibility of complication in the diagnosis of this disease.

THE DISCRETE VARIETY.

The initial symptoms are a chill, followed by high fever, vomiting, headache, lumbar pains, occasionally the temperature running 102 or 103 on the first day, increasing to 105 by the third day, when the eruption appears with other symptoms, photophobia, sore throat, and usually a cough; patient is restless and sometimes severe nervous symptoms appear, but the pulse and fever at this time drops to normal. I was impressed in the late epidemic here by the statement from the physicians in giving the history of the cases reported to me, in which they would say. I saw this patient three or four days ago, and he was taken with a chill and severe malaria, as I thought, but his fever left him and a rash appeared, and I thought he was much better, but this eruption developed into this present condition and made me suspicious. Evidently they had overlooked the sudden fall of the temperature as due to the course of the disease, and had attributed it to their effective remedies in the treatment of the case. This eruption begins on the neck and face, scalp, the wrists, and appears in the roof of the mouth. The first stage resembles an exanthema of measles, maculae in appearance. In twenty-four hours it spreads over all parts of the body, and the third day the maculae has changed into papules, when all doubt should be removed by the shot like feeling of the eruption. The papules persist for two days, when the elevation of the epidermis over the papules develop into vesicles, about the size of a split pea, and very soon become umbilicated, containing a lactescent fluid, and on the sixth day of the eruption the vesicles begin to lose their umbilication, the appearance rapidly assuming a globular shape, and by the eighth day have changed into pustules. Profuse salivation occurs at this period, and swallowing is difficult, voice husky, temperature higher than the initial stage, termed the second fever, and reaching a temperature of 105 usually. Desi-

* Read before the McCracken County Medical Society.

eation usually the twelfth day, and lasts from eight to fourteen days, sometimes on soles of feet and palms of hands four to six weeks.

THE CONFLUENT VARIOLA.

Differs from the Discrete in, that the symptoms are greatly exaggerated, the initial stage shorter, occurring from 12 to 18 hours, eruption appearing usually in 48 hours after attack. It is unnecessary to say much about the symptoms of this variety, for there is no difficulty in diagnosing it.

THE HEMORRHAGIC VARIOLA.

Differs in character of symptoms and the eruption occurring in about 48 hours after the initial attack, when hemorrhage occurs from the gums, throat, lungs, nose, kidney, uterus and rectum, ecchymosis occurring in the skin and into the papules. Hemorrhage and usually death occurs.

MODIFIED VARIOLA.

It is in this character of cases the majority of which I have had personal experience with, and I can say very candidly, that it composes all the abortive types of smallpox, modified by vaccination, insusceptibility and by previous attacks. This is where the difficulty of diagnosis comes, and under this head is classed all varieties, which depart materially from Variola Vera. They consist in the departure of the character and course of the eruption, and symptoms of the disease: in fact, it embraces all abortive forms of smallpox, and is usually termed Varioloid, a partial immunity having been conferred by previous attacks, vaccination or constitutional or hereditary immunity, the last of which is not generally admitted, but I am convinced exists, however. Individuals may contract from these cases a typical case of Variola Vera. The initial onset rarely lasts longer than two days, with a temperature of 102, falling normal in two days. The patients usually consider themselves well and the secondary fever is rare and when present lasts but 24 hours. The eruption differs in character, sometimes not reaching the pustular stage, and while it is surrounded by the red areola, the pustulae are dwarfed.

All the stages of the eruption are briefed in this form of disease, and are not universal in size and appearance, as in the regular variety, some papules developing fully and others disappearing before pustulation, usually leaving the patient with but few if any scars. Such other varieties are encountered in epidemics as Variola Verrucosa, where the eruption does not go on to well formed pustules of smallpox, stopping with the development of solid papules with the small vesicle at their summit, and after desquama-

tion a watery elevation of the skin is left. Variola Pemphigosa the eruption progresses regular to the vesiculae stage, when the vesicles become irregular blisters with sero purulent contents. Miliveis, this is where a portion of the eruption develops regular and when fully developed they consist of vesicles slightly larger than millet seed.

VARIOLA SILLICUSA.

In this the eruption develops regularly to the pustular stage, when its contents are absorbed, and leaves an empty shell.

The forms of these eruptions I have seen have been mostly modified variola, with the exception of a few discrete forms. I have never seen a confluent case nor an hemorrhagic case, so fortunate for this paper, the differential diagnosis rests mainly and is needed mostly in the forms I have seen. First, the differentiation from Chickenpox will be offered, and in the beginning I will say, that numerous authors state that they are kindred diseases, and is only a mild form of variola. To this I am willing to admit, but they do occur frequently at the same period, and when you have a great deal of smallpox you always have chickenpox, but I am convinced they are of their own kind, while they prevail simultaneously, it makes the differentiation more difficult, and demands the exercise of good judgment.

SMALLPOX.

Usually ushered in with chill, severe headache and backache and high fever. Fever lasts two to three days, the eruption appears, temperature falls. Vomiting in smallpox. Four stages of the eruption, vesicular stage 8 days from the beginning of attack. Lactescent fluid deeply seated beneath the skin, prominent base develops in pustules, umbilicated and mostly on face, hands and feet.

CHICKENPOX.

No chill, no high fever, if fever very slight, no initial stage, developing in 24 hours with eruption. No vomiting in chickenpox. Vesiculae stage of eruption 24 hours, serous looking fluid, very superficial small red base, and pustules not more than one in a hundred pustulae occur in several successful crops, mainly on the body and back.

SYPHILIS.

Papular, vesicular pustular syphilides counterfeit the eruption of smallpox but poorly, fever may co-exist, papulae devoid of shotty feeling, but the vesicular eruption is sometimes umbilicated, the pustular stage closely resembles variola, but by the following points differentiation is easy. No history of chill, fever, vomiting, head and backache, and no disappearance of fever at the eruptive

stage, and the pain when present is not confined to the lumbar region. Eruption not of uniform size, and various stages of eruption appear at the same time, successive crops, and is easily diagnosed by waiting.

PEMPHIGUS.

Begins with minute red spots upon which vesicles are formed, presenting a clear, citron or yellow color, when fully developed they are tense, and fluid is changed from a serum to a milky color, ordinarily confined to the limbs. The palms and soles of the feet rarely are involved. In the vesicular stage they are the uniform size, about the size of a split pea, later they become as large as chestnuts, easily ruptured, develop in crops of all sizes, later. Pitting does not occur, fever attends and continues sometimes at 105 to 108. No chill, head nor backache, no umbilication, no four stages.

IMPETIGO CONTAGIOSA.

Mostly among children, malais chill and fever, commences on face around the mouth, nose and eyes, begins in the vesicular stage, soon containing a turbid serum, extending to a somewhat flat blister, surrounded by inflammatory areola. The blister flattens the fluid dries and in a few days a yellow green or straw color crust appears, curling up at the edges, no uniformity in size, and some as large as a three cent piece.

MEASLES.

No vesicular stage, chill and fever persists after eruption appears. Appears early after four stages.

FEBRILE LICHEN.

Resembles varioloid in papular stage, small slightly red papules the size of millet seed, appears 24 hours to 48 hours after initial symptoms, no fluid contained in eruption, no four stages.

In the differential diagnosis of smallpox in any of its varieties, time is an important factor. The chill, fever, headache, vomiting, lumbar pains, constitute a group of symptoms that should put the prudent physician on his guard, especially when smallpox exists in the locality; yet these combined symptoms should not make the physician commit himself even though his patient had not been vaccinated and had been exposed to smallpox. In such a case he should make a provisional diagnosis, isolate the patient, and await the development of the disease, to a stage of certainty. This would be the vesicular stage. Many mistakes have been made by wise physicians in early diagnosis, and would be considered malpractice by the Courts.

Vaccination should be compulsory, for no

matter how absolute protection conferred by vaccination, there will always be great and insurmountable difficulties in the way of enforcement of this measure in America, where individual ignorance and prejudice are allowed to interfere with public welfare, and for this reason we should still enforce quarantine, and active disinfectant should be used.

WHY, WHEN AND HOW TO BATHE A FEVER PATIENT.

BY MINNIE LEE CRAWFORD.

GRADUATE OF THE HENDERSON CITY HOSPITAL.

I do not remember whom it was that wrote "that cleanliness is indeed next to Godliness," but I do know that a nurse in "training" has a great deal of work in that line to do, and, I have often wondered if the doctors really knew what it meant when they said "give the patient a bath."

When I first commenced in the "Training School" I had a very obscure idea of what "the bath" was for—true I had been taught in my Sunday school lesson that Naamon the Assyrian had been ordered to bathe in the Jordan, and thereby his leprosy was healed, but as a hydrotherapeutic measure in fever my knowledge of the use of water was very limited.

After nearly three years' of work, both in and out of the hospital, I have concluded that baths are given, first for cleanliness, or to remove dirt and dead epithelium; second as antipyretic, or to reduce fever; third, to stimulate the function of the skin, by reaction, increase the activity of the respiratory and circulatory organs; fourth as a sedative.

And also, when I heard one of the attending physicians remark, "that baths, properly applied, exert a tonic, eliminative, and antipyretic action, and that hydrotherapy played a most important role in the management of acute and chronic diseases," I then began to realize that to keep my patients clean was not the only object of "the bath."

In brief, I was ordered to bathe my patients to promote CLEANLINESS, to STIMULATE THEM, to QUIET THEM, and to REDUCE TEMPERATURE.

If the patient needed stimulating, often the order "was a cold bath."

If the patient was nervous, a warm bath was ordered, and if the temperature was running very high, the order was either a hot or a cold bath, according to the nature of the case.

I learned to give the full bath, the half bath, the sponge bath, the spray bath, the sitz-bath, the Turkish bath, the Russian bath,

the sheet bath, the salt bath, the mustard bath, the hot vapor bath, the cold douche, the hot pack, the wet pack, the cold pack, these with various modifications, and the carbonated bath; until I began to think, as one of the attending physicians jocularly remarked one day, in a "hydrotherapeutic circle."

However, as my object is "Why, When and How to Bathe a Fever Patient," I will take up only those baths which are most generally used in fever cases, and not explain the different methods of giving baths in other diseases.

The full bath may be given cold, tepid or hot. I have been taught to give the

Cold bath from 50° to 75° F.

Tepid bath from 75° to 95° F.

Warm bath from 95° to 104° F.

Hot bath from 104° to 114° F.

However, these rules are not arbitrary, and may be varied according to the condition of the patient.

The full bath is given in a tub full of water, or sufficient amount to completely immerse the patient when he is lying down. This bath is sometimes used in typhoid fever.

To give this bath warm and cold, the patient is put in a tub with water at a temperature of 100° and the water is gradually cooled to 80°, the trunk and extremities being rubbed while he is in the water, or he is stimulated with hot water with or without whiskey. This bath was ordered in collapse and was to last from ten to thirty minutes.

The manner in which we were ordered to give the celebrated Brand bath in typhoid fever is as follows: "The bath-tub is brought to the side of the bed and the patient lifted into it by two attendants so that the entire body is submerged, the head being supported on a rubber pad. Cold water is poured over the head and face during the immersion, or an ice cap applied to the head, and the entire body, with the exception of the abdomen, briskly rubbed during the entire duration of the bath. We were ordered to begin with water at 68° F. and reducing the water at subsequent tubbings as low as 59° F. The duration is from ten to twenty minutes, according to the patient's reactive power, and the bath is repeated every three hours, day and night, regardless of sleep so long as the rectal temperature exceeds 102.2° F. Before and after the bath the patient receives a glass of whiskey or aromatic spirits of ammonia (this is the usual rule.) The patient is lifted out of the tub at the end of the bath and wrapped in blankets for half an hour, when the temperature is again taken to note the effect of the bath."

The Cold Pack is another method used in

persistent high temperature. The patient is enveloped in a sheet wrung out of warm water, and ice is rubbed over the entire covered body, while he lies upon a blanket in a bed protected by a rubber sheet. Hot water bags may be placed at his feet. Our instructions were to use this method only in extreme cases. Cold Baths and Cold Packs should be applied with great caution and good judgment.

In giving the cold tub bath in typhoid fever when we immersed the entire body, (at a temperature of 65° to 70° F.) we were ordered to keep up active friction during the bath in order to bring fresh quantities of heated blood to the surface. An ice bag should be applied to the head, and a stimulant may be administered before and after the bath, if necessary.

Another form of bath used in typhoid fever, is the Slush Bath. For the best description of this bath I have ever read I quote from a paper, "Present Methods Used in Medical Nursing," by Louise M. Marsh, R. N., and published in the December, 1909, number of *The American Journal of Nursing*. "This bath is indicated where the continual moving of a typhoid patient from the bed to the tub seems to be irritating and to aggravate the nervous systems. The bed is protected by two rubber sheets, the top one being long enough to extend into a large pail or tub placed on the floor at the foot of the bed. Pillows doubled over and tied, or blankets rolled lengthwise and tied, are placed under the rubber sheets, elevating them upon either side so that the patient lies in a trough. Blocks of medium height are placed under the head of the bed to assist drainage. A tub of water is placed upon a stand several feet higher than the bed and large rubber tubing with a sprinkler attached may be used to convey the water to the patient. A simpler way is to fill an extra large, ordinary (garden) variety of tin watering pot which is held high above the patient and the water sprinkled quickled from head to feet. The shower continues fifteen to twenty minutes, friction being given continuously. For the first ten minutes the patient is showered and rubbed anteriorly, then gently turned and his back well showered and friction given especially over the spinal cord for the tonic and sedative effect on this nerve center. In many instances when patients have been irritated and perhaps terrified by removal from bed into a tub the slush bath has been tried with excellent results."

SPONGING IN BED.

Of the many methods used, it is probable that the Sponge Bath, cold or tepid is the

most used, one of the safest and the most preferable.

It is stimulating, tonic, antipyretic and sedative. It is less apt to excite the nervous patient, and devoid of the danger to collapse, which often presents in the weak.

Preparation of the Bed.—A rubber sheet should be placed under the patient, and over this should be placed a rubber blanket. Some use simply an ordinary domestic sheet over the rubber sheet; but a blanket is to be preferred, because a woolen blanket will not feel damp and soggy like a sheet. Remove all clothing and place a woolen blanket over the patient.

When about to commence to sponge a fever patient, we must first note the exact temperature of the body, and the room should be heated at a temperature of 80° F. Some physicians have ordered me to first sponge the body with water at a temperature of 80° F. before beginning the use of the cold water, claiming that in this manner we would avoid shock.

A basin containing warm water, or cold water; or equal parts of alcohol and water, or vinegar and water, as may be desired (75° to 95° F.) is then placed on a chair beside the bed. Ammonia, cologne water or vinegar added to the water makes it more cooling by its rapid evaporation.

Also place beside the bed basins, sponges and towels, or anything that may be required; as under no circumstances should a patient be left alone until the bathing is finished.

Commence at the head and sponge rapidly downward, exposing only one limb at a time. The sponge should be dipped frequently in the basin, and not squeezed too dry, as it is necessary, in order to get the full benefit of the bath, to apply plenty of the solution to the skin. The patient must be well protected by the blanket and only a small portion of the body should be exposed at one time.

I deprecate the use of just a single sheet over the body while bathing, and prefer the blanket, especially in private nursing, because it does away, to a great extent, with the danger of the patient becoming chilled or "catching cold." When the whole body has been sponged, the skin should be dried with a soft towel and the gown replaced; or the patient wrapped in a warm, dry blanket, and left for thirty minutes, an hour, or even longer. The temperature may then be taken to ascertain how much the fever has been reduced.

A hot water bottle should be kept at the patient's feet during the cold sponging, as with the feet warm there is less fear of chill

or collapse from shock. We must never forget that in a fever patient, as in all others, it is often the unexpected that happens, and that the danger of collapse is ever present. Sometimes my orders have been to continue bathing patient thirty and even fifty minutes in order to reduce temperature before leaving the patient. (If the patient is not nervous or excitable, and help is present, instead of sponging the patient so long at a time, a full tub or a slush bath would be better, and there would be less danger of cold or collapse to the patient. Would also state in this connection that there is a Folding Bath Tub, advertised by a surgical supply house in Chicago, which could be used to a great advantage in the full bath or the slush bath). After cold sponging I have known the temperature to fall from one to four or even five degrees. The colder the water is the sooner the reaction takes place.

Another method of sponging which I have frequently used is by wringing towels out of cold water, dry enough not to drip and placing them one after another, from the neck downward. When the feet have been reached, begin again at the head and renew each in succession, and continue as long as necessary. I have known this method to be used on very nervous patients, with high temperature, and in twenty or thirty minutes the nervousness would be allayed, and the temperature reduced. I have also found that the hot sheet wet pack, used in the same manner, to give better results in nervous, intractable children than any other method of bathing.

In continued high temperature I have placed a sheet, wrung out in cold water, starting at 100° F. and reducing to 80° or 70° by placing the sheet around the body from the arm pits to the pelvis, under a blanket, and keeping it there for fifteen or twenty minutes with splendid results.

A warm Mustard Bath at 80°, 100° or 105° is also well borne by nervous and peevish children, and is an excellent means of starting or favoring elimination of toxic material. This bath is used mostly with children, and is best prepared by placing an ounce of mustard in a muslin bag and throwing it into the bath. Properly given this bath will dilate the superficial capillaries, produce a sense of warmth, allay nervousness and insomnia, and also reduce the temperature.

I have found that when I have been called to nurse a patient, several miles in the country, away from the conveniences of the hospital, and cut off from communication with the attending physician, many emergencies arise that were undreamed of, and which try all the skill, nerve and knowledge that a

nurse can summon to her aid. Then it is that I learn the value of hospital training and hospital work.

OFFICIAL ANNOUNCEMENTS.

NEW STATE BOARD LEGISLATION.

Whereas, It is believed by those best informed on the subject that fully one-third of the sickness and one-third of the deaths which occur in Kentucky every year are caused by tuberculosis, typhoid fever, diphtheria, dysentery, scarlet fever and other diseases which are practically preventable, and by polluted water and other bad sanitary conditions, and

Whereas, It is claimed that this unnecessary sickness and mortality imposes an annual tax upon the people equal to that legally collected for all purposes, and requires for its prevention laboratories for scientific investigation, and especially trained health officials in the State and in each county and city, now, therefore,

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

That Section 2054, Chapter 63, of the Kentucky Statutes, relating to the State Board of Health, be and the same is hereby amended by striking out all of said section and inserting in lieu thereof such words that said section when amended shall read as follows:

Section 2054. The sum of thirty thousand dollars per annum, or so much thereof as may be found necessary by the State Board of Health, is hereby appropriated for the use of such Board for the following purposes:

To employ a State Bacteriologist at a salary to be fixed by said Board, not to exceed twenty-five hundred dollars, and such assistants as may be found necessary for the proper maintenance of such laboratory.

To make a survey and investigation of the rivers, creeks, water sheds, springs, wells and other matters relating to the sources and purity of the water supply in all sections of the State, looking to the protection and purification of the same.

To establish and maintain a Bureau of Vital Statistics, that the causes of sickness and mortality may be known and utilized.

To control and prevent diseases amongst domestic animals.

To pay the salary of the secretary and such clerks, stenographers, sanitary inspectors and other employees as may be actually necessary.

To pay the traveling and such other expenses of the Board as it may find necessary in the proper discharge of its duties, a certified list of all expenditures under this act to be made in its reports

To arrange for an annual school for county and city health officers, at some centrally located place, for systematic instruction in the best practical method for preventing the diseases above named, and other public health work, said school to continue in session at least three days; and it shall be the duty of each city and county health officer to attend and take part in such schools unless prevented by an epidemic in his city or county, or for other reasons satisfactory to the officials conducting the school, and it shall be the duty of each fiscal court or city council to pay the actual necessary expenses incurred by its health officer in attending such schools, upon certificates duly attested by the State Board of Health of actual attendance during the entire period for which such school is held and that the charges are reasonable.

All warrants under this act shall be signed by the president and countersigned by the secretary of the Board, and duplicates of all vouchers and an itemized statement of expenditures shall be filed with the Auditor of Public Accounts. The secretary shall give bond in the sum of ten thousand dollars, from a reliable bonding company, the fee of which shall be paid by said Board, for the faithful performance of his duties and the proper accounting for all funds coming into his hands, and said bond shall be filed with the Auditor of Public Accounts. The total expenses of the board shall not exceed the sum hereby appropriated, except for the public printing of said board which shall be paid for outside of this appropriation as other public printing is now paid.

This act shall take effect and be in force from and after January 1st, 1911.

IN MEMORIAM.

The following resolutions were adopted by the Pulaski County Medical Society at its regular monthly meeting on Thursday, March 10, 1910:

Whereas, Since our last monthly meeting at which Dr. George M. Reddish took leave to try his fortune in the west, but only reached his destination to die,

Resolved, That the sudden and unexpected death of our esteemed fellow and a former President of the Pulaski County Society, Dr. George M. Reddish, which occurred a few days after our last meeting, has imposed a burden upon the hearts and over-taxed our speech to properly express our fraternal grief.

Resolved, That repeating what we said in contemplation of his temporary withdrawal,—We regret his separation and departure and feel that his going will leave a vacancy in the personnel, the proficiency and character of the profession



GEORGE M. REDDISH

here, hard to refill. And that his genial and helpful association, as a fellow citizen, a fellow physician and surgeon, and fellow of this organization, will be sadly missed by all. We now feel that our loss has become the country's loss. We realize that what we regarded as a domestic misfortune has suddenly become a great professional calamity.

The cloud that did flit as we thought across our fraternal sky has quickly spread a deep

gloom athwart the professional canopy. Only the stars of our brother's good name and his noble work continue to shine for emulation.

Resolved, That our Secretary communicate expressions of sympathy and respect to Dr. Reddish's beloved family and report our feelings of great loss to the Secretary of the Kentucky State Medical Association.

S. F. PARKER, President.

CARL NORFLEET, Secretary.

Dr. J. O. Dixon, of Marion, Ky., departed this life Wednesday, March 16, 1910, 4:40 P. M. He was forty-nine years old January 26. Dr. Dixon died of organic heart disease. The summons came suddenly. The doctor had visited a patient not more than thirty minutes before his death. His death was a profound shock to the entire community, coming as it did like a thunder bolt from a clear sky. He leaves a wife, a son and daughter to mourn their loss, while the entire community as well mourns for a man it had learned to love and trust in time of sickness and sorrow. Dr. Dixon was one of the best known physicians in this county. He was devoted to his professional work and had led a very busy life. He was a member of the Crittenden County Medical Society, the Kentucky State Medical Association, and the American Medical Association. Dr. Dixon had been a successful business man aside from his professional work, and had invested all his earnings in his home county, principally in farming lands and high bred stock. Dr. Dixon was devoted to his family and his home was one of the sunny places of our city. He was a kind and loving husband, an affectionate and indulgent father, a kind and obliging neighbor, a faithful friend and a devout worker in his church. He had merited the confidence and respect of the entire medical profession. He was kind and gentle in the sick chamber, wise and discreet in council, and faithful to any trust confided in him. He was modest almost to a fault; he was gentle as a lady, yet brave as a lion. In his death his family has lost a faithful husband and father, his community a useful citizen, and the profession one of its honored members.

T. ATCHISON FRAZER, Secretary.

Changes in Uterine Fibromyomas During Pregnancy.—Piquand has found records of 82 cases of suppuration or gangrene of a fibromyoma following close on a pregnancy. Polyps are particularly liable to these changes on account of the interference with their circulation from the stretching and compression of their pedicle, while they are peculiarly exposed to infection. In 43 cases on record of interstitial fibromas with suppuration or gangrene, only 7 of the women survived.

Antigonococcus Serum.—Torrey states that an antigonococcus serum may contain substances on which the fixation of complement depends, and yet be devoid of anticeidal antibody. This condition may be reversed. Hence it is necessary to conclude that bacteriolysis and fixation of complement do not depend on the same antibody.

COUNTY SOCIETY REPORTS.

Barren—The Barren County Medical Society met at Glasgow Jan. 11. President W. T. Britt being absent, R. E. Garnett was chosen to wield the gavel.

S. J. Smock reported a case of erysipelas in a child 4 years old, spreading over the entire body, from a small scalp wound, the infection starting 5-6 inches from the wound.

R. H. Porter thought the infection was carried by the lymphatics.

R. E. Garnett and **R. H. Proter** reported several interesting cases. The case of Lonnie Biggers was called to the attention of the society. On motion a committee was appointed to draft resolutions and present them to the proper officials, requesting law being enforced in regard to illegal practice. **S. J. Smock**, **J. S. Leech** and **R. H. Porter**, Committee.

J. Morgan Taylor reported a case of Catalepsy, which condition lasted several days.

J. C. Jordan reported case of fatal Hemorrhage from the rectum in a child 7 years of age.

C. L. Venable of the Logan County Society was present and declared his intention of soon becoming one of us.

The afternoon session was taken up by some informal talks relative to the Physician himself and arrangements of the following program for the February meeting: Papers to be read by **H. P. Honnaker**, **J. C. Jordan**, (Vomiting of Pregnancy), by **A. T. Botts**.

Adjourned to meet February 8.

T. F. MILLER, Secretary.

Barren—The Barren County Medical Society met at Glasgow Tuesday, Feb. 8. **S. J. Smock** was made President pro tem.

R. E. Garnett reported case primipara. Last menstruated Feb. 15, '09, all presumptive signs of pregnancy following in due time. Progressive enlargement of abdomen began latter part of April. Was called to deliver her Feb. 6, '10; found active movements of child and foetal heart sounds very distinct. Vertex presenting, os dilated pains, irregular and later disappeared. Patient now up and doing well. In the discussion of this case by **Porter**, **Botts**, **Taylor** and **Pumlee** many interesting cases of like nature were reported which they had met in their careers.

R. H. Porter reported case of Transverse presentation, attended by a mid-wife, where child was impacted for 24 hours, with placental detachment before delivery was accomplished. Owing to the inclemency of the weather many out of town members were unable to attend. The

papers to be read at this meeting were deferred until next meeting.

Adjourned to meet March 8.

T. F. MILLER, Secretary.

Carter—The Carter County Medical Society met in regular session at E. K. Junction on March 8, 1910, and after a short session, adjourned to meet in Grayson on same day at 7 P. M. Our meeting place at E. K. Junction seemed unhandy for the brethren and the attendance was therefore small and on motion of **G. R. Logan** it was unanimously voted to change our time and place of meeting so that our sessions will hereafter be held alternately between Grayson and Olive Hill, and the dates will be the second Tuesday in February, May, August and November. Our next meeting will be held in Alpha Hall in Grayson, May 10th. The usual business meeting will be held about 3 o'clock P. M., and an open or social meeting at night for the laity and physicians, with a banquet by the Grayson brethren at the Grayson Hotel for all physicians of the society outside the town, free.

The President, G. B. O'Roark, appointed J. W. Stovall, C. L. Hudgins and D. B. Wilcox a committee on arrangements for said open meeting.

On motion the President is directed to appoint a committee to draft suitable resolutions on the decease of our brother, W. D. Williams, of Olive Hill, and accordingly M. W. Armstrong, J. W. Stovall and D. B. Wilcox were appointed on said committee.

G. R. Logan, of Enterprise, was appointed Vice-President of our society.

There being no further business to come before us our meeting adjourned.

D. B. WILCOX, Secretary.

Caldwell—The Caldwell Medical Society convened in the city hall at Princeton on Tuesday, February 8, 1910, and in the absence of both the President and Vice-President, the meeting was called to order about 1:15 P. M. by W. L. Cash. The Secretary read the minutes of the previous meeting, which were adopted. The following physicians were in attendance: W. P. Morse, N. B. Abell, W. L. Cash and R. W. Ogilvie. The applications of Drs. Z. T. and Cynthia Cunningham for membership into the society were received, and referred to the Board of Censors to be reported at the next meeting.

A motion was made that the society adjourn and proceed to the court house in order to hear the trial of one, G. W. Staples, colored, charged with practicing medicine without a license. The motion carried, and the program was continued until the next monthly meeting. The Secretary is glad to report that the trial resulted in the conviction of "Doctor" Staples for having practiced medicine illegally.

R. W. OGILVIE, Secretary.

Elliott—The Elliott County Medical Society met at Newfoundland, Tuesday, March 8th, 1910. W. W. Johnson and H. T. Sparks were elected to membership. All the physicians in the county are now members of the society.

The election of officers for the ensuing year was next taken up, which resulted in the following being chosen:

President, H. T. Sparks; Vice-President, S. G. Hunter; Secretary, J. L. Lyon; Treasurer and Delegate, Jas. H. Harper; Board of Censors, Wales S. Brown and W. E. Sparks.

After some informal talks pertaining to the business of the society, the following program was selected for the April meeting:

Rheumatism, (paper), Jas. H. Harper.

Lobar Pneumonia, (paper), H. T. Sparks.

Sandy Hook was chosen as the next place of meeting, to be held Monday, April 4th, 1910, at 1:30 P. M.

J. L. LYON, Secretary.

Franklin—Franklin County Medical Society met at 3 P. M. March 7th, in the office of Drs. Williams and Mastin. Vice-President M. C. Darnell in chair, Dr. Barr, the President, being absent.

Present as visitors, C. Frazer, of Henry County, and S. P. Parks, of Covington; C. Austin, of Shelby County. Members present—Drs. Heilman, Ross, Wilson, Garrett, Demaree, Healey, Darnell, South, Montfort, Mastin, Jett and Williams.

Petition of Dr. E. C. Reomele presented for membership at last meeting, having been favorably reported upon by Board of Censors, Hume, Minnish and Demaree, on motion he was unanimously elected.

U. V. Williams reported a case of recent, only two days previous, Paralysis, which led to an animated and very interesting discussion, participated in by Drs. Healey, South, Garrett, Minnish, Yeager and Wilson and closed by Dr. Williams.

U. V. Williams reported the death of Dr. G. Z. Horine, a member of this society, in a glowing tribute to the life and services and memory of deceased, and on motion of Dr. Minnish a committee of one be appointed to prepare a memorial paper, to be spread upon the minutes of this society, and upon suggestion Dr. Williams was requested to prepare the same and present it at next meeting of society.

O. B. Demaree then presented and read a paper on Diphtheria, as comes upon the daily routine of the domiciliary practitioner, which was highly commented upon, its excellence and practicability discussed at length and with profit by Drs. Yeager, South, Wilson, Healy and Minnish and closed by Dr. Demaree. Dr. Wilson, who was on program for paper on Eye, Ear, etc., from the

view-point of specialist, asked that it be deferred until next meeting, as he had not completed the preparation of it on account of sickness in his family, which was granted and made the special program for April 4th.

C. Yeager made some humorous incongruous and reminiscence remarks upon the occasion of a former visit to Frankfort, upon the occasion of the meeting of the State Society at Frankfort and recalled some of the older landmarks as of the society, mentioning Dr. Lyman Beecher Todd, of Lexington; Dr. Porter, of Eminence, and Dr. Ely, Stone and Williams, of Frankfort, as the old-time boys of the society, which did Dr. Williams great injustice, being placed in the category of old men, as he had only been practicing the profession for the limited and brief period of only 55 years.

Then adjourned.

U. V. WILLIAMS, Secretary.

Grayson—The Grayson County Medical Society met at Leitchfield, Thursday, March 3d. House called to order at 1:30 P. M. by H. C. Duvall, President. First before the house, was reports by the Secretary, of all the information that he had gathered from various houses, in regard to taking a contract to buy our drugs; after the reports, the subject was discussed from every standpoint, including price, quality of goods, and also terms of contract. Finally G. W. Duvall made a motion that we offer a contract binding ourselves to buy \$1,000 worth of goods from one certain house during the next twelve months, and when we had bought this said amount then the house was to refund the discount. The motion was seconded by C. L. Sherman, then the motion was discussed with so much enthusiasm and met with so many objections that G. W. Duvall withdrew his motion.

Next we called in the representative for T———, in order to get his terms and also to see just the kind of a contract we would have to give; then the representative for H——— was called and so on until we finally contracted for our fluid extracts, tinctures, syrups and wines, but our contract for powdered extracts, pills and tablets was left over until next meeting.

Then a case was reported by E. B. Dewees, after which the house adjourned to meet again Thursday, April 7th.

C. L. SHERMAN, Secretary.

Nelson—Report of the Secretary of Nelson County to the State Association for 1910, in compliance with Section 13, Chapter 12, of the By-Laws.

Officers—Pres., J. I. Greenwell; Vice-Pres., J. R. Cowherd; Secretary, Hugh D. Rodman; Treasurer, Hugh D. Rodman; Delegate, H. D. Rodman; Board of Censors, B. E. Gore, R. H. Greenwell and S. A. Cox.

Blair, J. W., Chaplin; Cox, S. A., Bardstown; Cowherd, J. R., New Hope; Crume, S. B., Bloomfield; Gore, B. E., Bradstown; Greenwell, R. H., Bardstown; Harned, H. S., Boston; Greenwell, J. I., New Haven; Heizer, W. J., New Haven; Heizer, W. Lucien, New Haven; Muir, S. C., Bardstown; McKay, H. E., Bardstown; McIntire, E. L., Woodlawn; Overall, J. B., Cox's Creek; Powers, J. G., Fairfield; Pope, F. W., Chaplin; Rodman, Hugh D., Bardstown; Wakefield, J. J., Bloomfield; Wells, J. W., Fairfield; Williams, R. H., New Hope.

Total, 20 members, against 21 last year, a loss of one member. We lost two, one by death, J. E. Smith; and one by removal, Chas. McClure, and gained one, S. C. Muir.

H. D. RODMAN, Secretary.

Nelson—The Nelson County Medical Society met March 2, 1910, in the office of Hugh D. Rodman. In the absence of both President and Vice-President, H. S. Harned was elected President pro tem. There were present B. E. Gore, H. S. Harned, H. E. McKay, R. H. Greenwell and Hugh D. Rodman. The minutes of the last meeting were read and approved.

R. H. Greenwell reported two cases of Diphtheria which he treated entirely with the antitoxine. One a boy 11 years old, with a severe type of the disease. He gave 5,000 units at noon and 3,000 at 8 P. M. same day, and 5,000 at 8:30 A. M. next day, had no other treatment whatever—made a rapid recovery. The second case was a girl seven years old with a light type of the disease, to which he gave 3,000 units, with no other treatment, and a quick recovery. There were four other children in the same family, a boy of seventeen, one nine, and one seven and one three years old. To each of these he gave 500 units as a prophylactic. These three younger children were quarantined in the same rooms with the sick; in ten days after the appearance of the disease had disappeared in the first cases, the boy three years of age and the one nine developed very mild cases of the same disease, which yielded very quick to the antitoxine. It is well to say here that the environment of this family was very unsanitary; dirt was abundant and ventilation was poor. These were the first cases he had ever seen where the preventive did not prevent, which he believed was due to the association with the sickened and general bad surroundings—but while it did not absolutely prevent it, rendered the cases very mild and easy and speedily controlled.

B. E. Gore.—Do you believe that antitoxine will do any good after the disease has existed eight or ten days?

H. S. Harned said that he had given it six or seven days after the beginning of the attack with good results. Patient got well promptly.

B. E. Gore had given it eight days after the

beginning of the attack to two patients, both of whom were ill all of the time, and their recovery was rapid, beginning immediately.

R. E. McKay had never seen such cases but would give anti-toxine at any period of the disease with great hope of its effects. **H. S. Harned** asked as to the use of peroxide of hydrogen? None of the members had used it, but all believed in its use, and none believed that it would disseminate the disease.

Hugh D. Rodman said that he had now on hand a case of a boy fifteen years old, which he saw yesterday, March 1st, for the first time. Found him with a temperature 104, pulse, 112, had a light chill on the afternoon of the day previous, and complained of sore throat. When seen the membrane covered the left tonsil and left side of the uvula. Could swallow only with great difficulty. Diagnosis—Diphtheria and gave 5,000 units of anti-toxine, this morning the temperature is 99 1-5, pulse 90, membrane softening. This evening or 32 hours from the giving of the anti-toxine, temperature had gone up 4-5 of a degree up to 100. I gave 2,000 units more of the anti-toxine; from now on the recovery was rapid, and on the sixth day the patient sat up. The four younger children had 500 units each, and were sent from home with relations who had no children and there were no other cases. This case had both local and constitutional treatment. Surroundings were good and hygiene perfect.

B. E. Gore.—Did you give whiskey? I did. **Gore.**—What for? Both as a food and as a stimulant.

Hugh D. Rodman reported a case of Erysipelas. In this case the Serum treatment seemed to cut the disease short. On Jan. 15th, at 4 P. M., I saw a man 48 years of age. Pulse, 95, temperature, 102 3-5,

History—About seven o'clock on the evening before he felt acute burning pain at the inner angle of the left eye, accompanied by redness and swelling. When I saw him about 20 hours from the beginning of the attack, the swelling and redness had extended across the nose, which was now considerably swollen; both eyelids were involved to such an extent that they were nearly closed. He suffered great heat and pain in these parts. Diagnosis, Erysipelas. I gave calomel, acetanilid, and soda, to be followed next morning with salts; not having anything better at hand as a local application, I used a solution of Acetate of lead. I saw the patient the next morning at 9 o'clock. Pulse, 104; temperature, 104; swelling, redness, and pain increasing; eyes about closed; upper lip swollen; the whole physique presented an ugly spectacle. As things seemed to be, and were, going from bad to worse, I decided to give the Anti-Streptococcic Serum, and gave at once 10 c. c. of it; in one hour and thirty minutes the pulse had fallen to 96, and the temperature to 102 1-2, (one and one-half

degrees), and never again went up to the 104 mark. The local application from now on was equal parts of Ichthyol and Lanolin thoroughly mixed and applied freely to the affected parts, and running each application a little beyond the line of demarcation. At eight o'clock on the evening of the 16th Dr. A. D. Willmoth, of Louisville, saw the case, and gave 10 c. c. more of Serum. At 9 A. M. on the 17th I again gave 10 c. c. more of the Serum. From this time on the disease began to subside. The inflammation spread slowly, and the swelling of the eyelids and lips began to give way, the pulse and temperature gradually went down; in fact, by the fourth day convalescence was well marked. I report this case to show what I believe to be the beneficial effect of the Serum treatment. This is the second case of Erysipelas in which I have seen the Serum used; the other was more advanced when the Serum was first given, but it showed mitigation of the symptoms from the first dose of the Serum. In this case I believe that the disease was cut short more than one-half its usual length. Before the introduction of the Serum, we are told that the local lesions cease to advance from the fifth to the tenth day. In this case they ceased to advance on the third day, and by the tenth day the patient was well. I have been a disciple of the Serum in this disease for a few years and the result of this case strengthens my belief in its efficiency.

Hugh D. Rodman read a paper on Acute Alcoholism, in which he strongly advocated the withdrawal of alcohol at once, and advised large doses of Bismuth and Oxalate of Cerium to control the stubborn vomiting, which we often find after a few days' drunk.

B. E. Gore.—Did not believe in the use of Opium or any of its alkaloids to induce sleep in these cases.

H. E. McKay.—Believed that Alcohol should be cut off in acute cases, but believed in its use in chronic cases, and he believed that the bromide of soda was best in sleeplessness.

H. E. Harned did not use any of the preparations of Opium, but believes in the Bromide and Strychnia.

Our next meeting will be on June 1st. Will be an open meeting and will be a rouser. We will be glad to see the Editor of the *Journal* or some of his Staff present.

HUGH D. RODMAN, Secretary.

Owen.—The Owen County Medical Society met in its rooms in Owenton at 10 A. M., March 3, 1910, with W. B. Salin, the new President, in the chair for the first time during his present incumbency, and, in the absence of the regular Secretary, K. S. McBee was selected as Secretary pro tem.

Some interesting cases were reported and

others exhibited, which were thoroughly discussed by the entire society.

M. S. Veal, the ex-President, made an excellent talk on "Criminal Abortion," citing three cases that had recently come to his notice. The members took up the subject, and from the discussion, as well as the talk from the original speaker, it is very evident that the "Criminal Abortionist" does not stand very high in the estimation of this society.

J. H. Chrisman read a paper on "The Newer Methods in Diagnosing Tuberculosis." This paper was quite a treat to the society and was complimented and discussed by all the members present.

After announcing the program the society adjourned to meet again April 7, 1910.

K. S. McBEE, Secretary, Pro Tem.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: J. H. Barbour, W. H. Yelton, John E. Wilson, J. Ed. Wilson, H. C. Clark, W. A. McKinney, K. B. Wooley, O. W. Brown, T. C. Nichols, J. A. Caldwell, P. N. Blackerby, N. H. Ellis, A. L. Beckett, J. F. Daugherty, 14 in all. After reading the Journal of the previous meeting, we proceeded to the business of the day, first unfinished business.

H. C. Clark said: I have visited the school at the Academy building. The teachers assembled all the children of the different rooms in one. I gave them a talk principally on how to prevent tuberculosis, using the blackboard to illustrate my lecture. I had the individual attention of every child. I have had any number of questions asked me by the children, and their parents, too, since my talk to them, showing that the seed was sown on receptive soil. They seem to be afraid of fresh air.

J. F. Daugherty—Since our last meeting I have visited 3 schools, and have 2 more I would like to visit. One thing every child should be taught to count his own pulse. Many times patients come to us, and one of the first things we notice is a pulse, rate of from 100-120. I look upon this as one of the main diagnostic points in tuberculosis. And if the children are taught to recognize a rapid pulse, it would be the means of us seeing our cases earlier. I, like Dr. Clark, dwelt on the prevention of the disease.

H. C. Clark—There is another opportunity that we have to reach the people, that is to ask the preachers to give us 15 minutes of their time before church begins.

W. H. Yelton—The doctors are the only talk to the school, but I draw the line at the pulpit.

J. F. Daugherty—The doctors are the only teachers the people have, and they will have to teach them if it is ever done. I am more afraid of tuberculosis than any other disease.

J. A. Caldwell—I don't think it would be a good thing to go to the churches yet. It will take a generation to educate the public, and we must educate them through the schools first.

Report of Clinical Cases. **John Williams** reported the following case: Boy 15 years old kept his bed for one week before sending for me. At the end of that time I was called and I examined him quite thoroughly, and I made a diagnosis of appendicitis, temperature a little above 100, temperature at McBurney's point. Treatment: I kept him quiet, gave meat broths and milk. I gave 2 or 3 tablespoonsful of Olive Oil at a dose. On Monday I saw this case again and his temperature was up a little and he was suffering from pain, pulse 105-110. I asked for consultation, and one of our conferrees was called, and he agreed with me as to diagnosis. Also he didn't think it was an aggravated case. On Tuesday the condition had developed rapidly. I phoned for a surgeon and he operated that afternoon. The incision was made and the pus came freely, 1-2 pint of green and thick pus. We cleaned it out and put in drainage and dressed the wound. I sat around for a couple of hours. After the operation he seemed to be in a good condition. The next morning I was called hurriedly, and I found him dead when I arrived at his home. Now, what was the cause of death?

H. C. Clark and **E. Wilson** thought it was splanchic paralysis.

W. H. Yeston read a paper on "Acute Peritonitis."

J. Ed. Wilson in discussion said there were 3 principal causes, Tuberculosis, Gonorrhea and child bed fever. According to some authors, 9-10 of all pelvic operations are due to Gonorrhea. The best treatment is to prevent it. In tubercular peritonitis, the best treatment is to open and drain the peritoneum. Also in localized peritonitis from appendicitis, it is best to drain.

J. F. Daugherty—I have seen 3 cases in my time, 2 of them got well, and one died. One case got well spontaneously. I gave her Creasote.

H. C. Clark—A case of tubercular peritonitis, family history tubercular, pulse rapid, respiration bad, stooped, appetite poor, general contour was that of a very seriously sick man.

H. Whitaker, of Cincinnati, operated on him. I passed my gloved hand into the abdomen and the peritoneum felt like it was filled with bird shot, thousands of them. I said to the doctor, he will die. He said yes, but contrary to our expectations he got well.

H. C. Clark—Subject, "Puerpura Hemorrhagica." Discussion by O. W. Brown. This closed the papers and their discussions. This meeting was well attended, notwithstanding the great amount of sickness in this locality. This

shows the great interest taken in the society by our members.

W. A. McKINNEY, Secretary.

Scott—The Scott County Medical Society held its regular quarterly meeting March 2, 1910.

Those present besides the President, W. S. Allphin, were Drs. Coons, Crutchfield, Moore, Heath, Porter, Forman and Barlow.

J. E. Pack being absent **E. C. Barlow** was appointed Secretary pro tem.

The minutes of the former meeting were read, corrected and approved.

P. H. Crutchfield read a very interesting paper, "Pneumonia and Its Treatment." Discussion by Drs. Moore, Foreman, Coons, Porter, Allphin and Barlow.

A motion was made and adopted unanimously that in the future the meetings should be held monthly, beginning the third Monday in April at 9 A. M.

There being no further business the society adjourned to meet the third Monday in April.

E. C. BARLOW, Secretary.

Spencer—"The last shall be first and the first shall be last." Spencer County is the last county in Kentucky to come into the "fold," but she comes now with flying colors and a determination on the part of its members to make it a success.

We had a society several years ago, but the poor thing died of inanition, or possibly, "just died a natural death," as I understand no doctor attended her in her last days.

So we are now "born again" and born with a determination to live and grow, and multiply, and we hope to make our influence for good so perceptible, that every doctor in the county will join us, and the "knockers knock no more."

We have in the county 15 physicians in active practice, and 4 retired. We hope to have all of these brethren enrolled as members before the close of 1910.

We organized at Taylorville on the evening of March 18th the following gentlemen being present: J. T. Martin, E. C. Wood, B. F. Shields, T. J. Snider, Furnish; R. Y. Shepherd, S. L. Reid, and O. M. Crenshaw, all of Spencer County, and our councillor, B. F. Zimmerman, of Louisville. The house was called to order by Dr. Zimmerman, and after giving us a very practical and instructive talk on the benefits and purposes of a county society, proceeded to organize The Spencer County Medical Society.

The following officers were elected: President, J. T. Martin; Vice-President, E. C. Wood; Secretary and Treasurer, O. M. Crenshaw; Board of Censors, Furnish, 3 years; B. F. Shields, 2 years; R. Y. Shepherd, 1 year.

It was agreed that papers should be read by the members as their names appear in alphabetical

order. Dr. Crenshaw's name standing first, was asked to furnish a paper for the next regular meeting.

After a social session and smoker, the cigars being donated by our obliging druggists, Froman & Stratton, we adjourned to meet again on Wednesday night, the 13th of April.

O. M. CRENSHAW, Secretary.

Whitley—The Whitley County Medical Society met at Corbin, Ky., Feb. 10, 1910, with a large attendance and the following visitors present: L. M. Scott, of Jellico, and J. Siler, of Lot. The society was called to order at 11 A. M. by the President, Dr. Parker.

The minutes of last meeting were read and approved.

J. H. Parker then read a most interesting paper on "Colles Fractures," which was a most instructive paper, and was enjoyed by every one present, and every doctor present took part in the discussions.

L. M. Scott, of Jellico, opened the discussion. Several cases were reported and discussed and the society then adjourned and marched to the Corbin Hotel, where a big dinner was enjoyed by the society. The society was called to order at 1 P. M. and **T. J. Ballard** of Corbin, read a paper on "Lobar Pneumonia," which showed the doctor had made the subject a careful study and that he had used much care in the preparation of his paper. The paper was enjoyed by all and brought out many points for discussion.

After hearing Dr. Ballard's paper many cases were discussed by the society.

The society then adjourned. It was decided to have the next regular meeting at Williamsburg, Ky.

B. E. GIANNINI, Secretary.

Hemophilia.—Nolf and Herry report considerable research on the various elements of the serum to explain their interaction, especially in production of hemophilia.

FOR SALE.—A country practice in one of the best counties in Kentucky which will yield \$2,500 cash annually. With a five-room house and four acres of ground in an excellent town of 300 inhabitants. The property and practice, with a partnership until the buyer can be well introduced; can be bought for \$2,000 in payments to suit purchaser and which can be easily collected from the practice. Write the JOURNAL for particulars.

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ORIGINAL ARTICLES.

SOME PHASES OF DISEASES OF THE EAR AND THROAT, AS SEEN BY THE PEDIATRICIAN.

By PHILIP F. BARBOUR, LOUISVILLE.

In prosecuting this subject before a section made up of men who have devoted so many years of special study to the diseases of the nose and throat, one cannot help recalling the old adage of "carrying coals to Newcastle." But one also recalls the origin of the term "apperception," that the point of view or the schooling of experience makes the same phenomena appear different. I shall limit my paper to the discussion of a very few conditions and if I shall rehash much that is hackneyed to you it is because the circles of our experience are not tangential, but far overlap each other. Let us consider conditions of the ear:

The dangers inherent in inflammations of the middle ear are not appreciated by the general practitioner as they are by the otologist and the pediatrician. It is a frequent and alarming complication of scarlet fever, diphtheria, measles and influenza. It occurs in a number of other diseases of childhood and always adds to the gravity of the case. It is very frequently the cause of obscure fevers and again it may be found post-mortem without there having been any symptoms sufficiently pronounced to call attention

to it. Perhaps the most frequent cause of the inflammation in the young is an extension to the ear from a rhinitis.

The inner opening of the Eustachian tube lies somewhat lower in the rhino-pharynx of the baby than in the adult, the opening is relatively larger and the rhinopharyngeal space smaller with a strong possibility of adenoids still more to reduce it. If the inflammation in the nose is at all a severe one there will usually result an extension of that inflammation through the Eustachian tube to the middle ear. Pathologists tell us that the middle ear is rarely, if ever free from the presence of microorganisms. By some it is believed that in the case of measles or scarlet fever the eruption upon the mucous membrane,—for which the word "exanthem" has been coined—appears also in the middle-ear and so initiates the otitis media, but it seems more rational to believe that the inflammation in these diseases must extend from the throat because the character of the inflammation is so different in the two diseases. The results of that extension are going to depend upon several factors. If the inflammation in the nose is of a virulent type the otitis will naturally be of a purulent type; if the inflammation is of a milder character we shall naturally expect to see an inflammation of catarrhal rather than a purulent type. In the case of measles then we look for a mild catarrhal disease which may or may not cause a rupture of the drum membrane. If, how-

ever, there has been previously an otitis media purulenta, then the inflammation will almost certainly be purulent. The only two cases of measles that I have ever lost were by a meningitis arising from such relighting of old fires. The otitis of scarlet fever is always severe and the results may be deplorable.

Again there are cases of middle-ear disease following pneumonia and the pneumococcus is one of the most frequent inhabitants of the middle-ear. As a complication of the severe forms of bowel trouble it is frequently overlooked. These facts serve to show that there will often be a spot of lessened resistance in the ear where disease will flare up at the most unexpected times.

I hope that the discussion will bring out many of the signs and symptoms by which the recognition of middle-ear diseases may be more easy. It has happened to me more than once to have suspected such disease and referred the case to a specialist and get the report that there was no trouble in the middle-ear and some hours later the drum membrane would rupture and a quantity of pus be discharged. My head is neatly decapitated whenever this statement is made and I am requested to find out something about my own specialty that is not known. But surely there must be some as yet unknown sign by which the presence of this pus and inflammation could be recognized by the general practitioner so that something could be done to lessen the danger of this disease. When it is stated that this inflammation may go on to rupture of the drum membrane or sometimes to meningitis or to death without having been recognized it indicates that we who have these cases in our care have not been as observant as we should have been. And I take my medicine with the rest.

In locating morbid centers there is no aid equal to the lymphatic glands, for where there is pus there will be found an enlargement of the lymphatic glands which drain that area. I have not been able to find any exact description of the course of the lymphatics from the middle-ear. The investigations of Sappey show that the nasal or post-nasal space and the tissues adjacent to the inner opening of the Eustachian tube communicate with the glands which lie posterior to the sternomastoid muscle or to some which lie just underneath that muscle. I have observed in a great number of instances that there was a close association between the glands which lie here and also those which lie low down where the neck shelves out toward the clavicle and inflammations of the middle-ear. I have in a number of cases been able to affirm that there had been a ris-

ing in the ear and to tell from which ear the pus had been discharged, and also to foretell that a middle-ear abscess would develop. It is important to have some signs as confirmation, for earache is not always found in young children and the other signs upon which stress is laid such as putting the hands to the ear or burrowing the ear in the pillow or in the mother's breast or contracting the muscles of that side of the face or shrugging the shoulder on that side or crying or fever, are often misleading. Yet all of these may be found in any individual case or all may be absent.

I could not hope to say anything new to you on the subject of the relation of middle-ear disease to the incidence of mastoid infection. The anatomical relations, the developmental faults which allow a more easy extension to the middle fossa of the brain, the various sinus lesions and the vulnerability of the meninges lying so near that some one has styled the mastoid "the appendicular region" of the brain, are familiar facts. You have also threshed out the association of adenoid enlargements with increased vulnerability and imminence of Eustachian extension. There is one phase of this disease which does not so vitally interest you, but which is of significance to us and that is the systemic effects which may be observed when the pus which is in the middle-ear and the Eustachian tube is forced out into the rhinopharynx. There is no doubt that we frequently see infections of the lungs such as broncho-pneumonia secondary to this condition of the ear. We have every reason to believe that some of our most dangerous and intractable affections of the intestinal tract have their origin in the internal discharge of the pus. At times we may associate chronic gastric disorders marked by persistent and rebellious malnutrition with the slow poisoning from this source. Also streptococcal inflammation of the mucosa of the bowel has been traced to this source.

A word of caution may not be amiss in warning against the indiscriminate use of sprays in the noses of young children. Aside from the unpleasantness and ineffectiveness of sprays as generally used there is great likelihood of micro-organisms being forced into the Eustachian tube and a violent infection of the ear thus produced. Washing the nasal passages with a gentle current of normal saline or whatever solution may be preferred is far less apt to cause trouble in the ear.

Laryngismus stridulus is not a very common disease, but it has its dual aspect as seen by the laryngologist and the pediatrician. The symptoms are familiar to us all. The

sudden onset of the laryngeal stenosis, the peculiar and distressing dyspnea, the crowding intake of air which marks the relief of the spasm are sufficiently dramatic to awaken the interest of anyone who is nearby. The neuropathic origin of these cases is appreciated and understood by us all, but the pediatrician has been able to draw wider generalizations in this affection from the recent work of some of the foremost German clinicians.

It has always been associated in our minds with certain phases of rickets and especially with those which had craniotabes. Tetany also has been included in this general concept. But we are now enabled to recognize a diathesis with a spasmodic tendency to which the name spasmophilic diathesis has been given which includes many of these clinical symptoms under its head, such as tetany, laryngospasm, spasms nutans, the convulsive attacks of rickets or other convulsive disorders of children which can not be classified as epileptic, Chvostek's and Trousseau's symptoms, etc. This spasmophilic diathesis is inheritable from a neuropathic ancestry and when unrecognized leads naturally into the severer nervous diseases such as epilepsy or even to positive degrees of alienation.

Laryngismus stridulus then calls for not only the active treatment of the attack, but for a broad treatment of a constitutional vice. Those cases which complicate rickets are helped by the general treatment of the rickets and call especially for the administration of fats, lime, salts and phosphorus as urged so insistently by Kassowitz, and in this country by Jacobi. Being a spasmodic trouble, it does not often require any local treatment, though intubation has been performed a number of times to relieve the urgency of the stenosis, but as a rule the application of cold as the douche to the spine or the bath, or counterirritation will cut short the attack.

The laity of ten speak of "holding the breath spasms," or inward spasms. I have often wondered if they were not of the same neurologic character as laryngismus and belonging to the same spasmodic diathesis. The sudden application of cold gives the quickest relief to this condition.

A rare form of laryngeal obstruction is seen occasionally in young infants to which the name of congenital laryngeal stridor has been given. It is also occasionally termed "thymic asthma." Certain investigators claim to have found a very enlarged or persistent thymus in these cases which mechanically pressed upon the trachea and thus caused the dyspnoea. This theory has been proven to be untenable, but the assemblage of such cases as well as percussion seem to locate the stridor

at the very spot underneath the thymus. Thomson who first described this affection was the first also to give the proper explanation for its occurrence. He found in several cases postmortem that the epiglottis, instead of standing stiffly up above the larynx, was bent down so that by any extra exertion in breathing it was drawn down upon the larynx and caused the dyspnea and stridor. The dyspnoea is inspiratory and not expiratory. Although the child appears to have the greatest difficulty in inspiring, yet there is not the expression of discomfort and anxiety that is seen in cases of laryngeal stenosis from diphtheria. And as the baby grows older the breathing seems to improve and the stridor finally disappears entirely. The treatment is unsatisfactory in that we can do nothing to relieve the embryonal fault in development, but must wait for time to effect a cure, which time is not always able to do.

There are a number of other conditions peculiar to infancy and childhood which would prove interesting for us to discuss, but I have felt that these were important enough to merit your attention for the evening.

DISCUSSION.

Frank Fleischaker: I have enjoyed the paper very much, especially that portion with reference to making diagnosis of middle-ear disease in children, whether catarrhal or suppurative. I have run across several cases which were not easy to diagnose, especially in infants. One case that I remember in particular, lasted for five or six days, with fever, and the child had been treated for intestinal trouble right along. There were no signs whatever of any disease referable to the ear, until one morning the mother discovered pus coming from the ear. The child soon got better.

I wish some of the specialists would give us more symptoms or signs by which to diagnose ear diseases.

I. Lederman: In the name of the society I wish to compliment Dr. Barbour upon his paper. The part of the paper that was of special interest to me (but which I will not speak of was the latter part, with reference to laryngeal conditions. However, I have nothing to add to what the doctor said.

The essayist's remarks with reference to middle-ear diseases in children, especially infectious diseases, brings to mind the sad experiences we have all had; that is, the difficulty in diagnosing these conditions in their incipiency. Dr. Fleischaker asks for more symptoms upon which to make diagnosis. We have no more symptoms, and the experience Dr. Fleischaker has had has been our own experience; that is, very frequently the first evidence of ear disease in children has been a purulent discharge. We special-

ists, of course, like to advise a more general habit of thorough examination of the ear. However, it is a little too much to say that we should be called into all cases for examination of the ear. When my own child was ill with pharyngitis and bronchitis, a serous otitis media was present that gave no symptoms until I noticed the drum membrane bulging as a result of the serous effusion.

I believe practically every case of infection originates in the naso-pharynx, and I also believe that, in practically every case, it is adenoid tissue which is infected. I know there are some exceptions to this, but I think if the child had been examined before infection took place, adenoids would have been found—not necessarily large enough to give rise to obstruction or other symptoms, but still filling up the naso-pharynx, and the infection originating in this and continuing through the Eustachian tube.

With reference to the symptoms, hardly anything can be said. Of course, where earache is present, or any other evidence of discomfort about the ear, a thorough examination should be made at the earliest possible moment, but I can make no suggestions with reference to those cases which do not give rise to any symptoms.

Dr. Barbour said that he had seen cases in which the ear was examined and no evidence of any trouble found, and yet in a few hours a purulent discharge would take place. I hardly know what to say to that; I suppose it is just as liable to happen to me as to anyone else, and yet it must have been an initial infection taking place just at that time. We know that, in children, rupture of the drum membrane very frequently occurs within a few hours after infection of the middle ear. One explanation of this that comes to my mind is that infection of the antrum may take place without giving any rise to any symptoms of middle-ear disease, and the pus discharge, returning through the aditus, may at any time cause rupture of the drum membrane. We know that the antrum may be infected from the Eustachian tube without involving the middle-ear. I think such cases are rare, but a number of them are on record.

With reference to the possibility of infection of the intestinal canal by pus discharged within the naso-pharynx, whether from the middle-ear or from the naso-pharynx itself, we know that in a certain number of cases of abscess of the middle-ear, especially in children, drainage will take place back into the naso-pharynx and the disease run a favorable course. We know, also, that inflamed adenoids, or inflamed lymph glands on the posterior wall of the pharynx, will throw out mucopurulent secretion, and, this, of course, will pass down into the stomach if not expectorated. However, I have always questioned whether this can set up an infection of the in-

testinal canal. My mind is not clear on that point. I am inclined to believe that the infection in the middle-ear is secondary to the intestinal involvement. I do not think that the amount of pus which finds its way down into the stomach will set up a gastro-intestinal disturbance of any moment. We cannot emphasize too strongly the importance of the intestinal tract in the etiology of ear diseases. I am sure that I have seen a number of cases in which there were no etiological factors except a gastro-intestinal condition, usually of long standing.

With reference to the specific infections, we have all had some experience along that line. Scarlet fever seems to be the most destructive. We have all seen cases of middle-ear abscess that seemed to have been chronic from the very start, especially in scarlet fever infection, until we have more or less complete destruction of the drum membrane. To all intents and purposes they were chronic, purulent infections of the middle-ear from the very beginning. These cases seem to do badly in spite of anything that can be done; likewise, secondary infections, such as mastoid and sinus infection are very apt to follow. We know that, in children, there are some instances of direct infection of the jugular bulb without mastoid involvement. These, too, I believe, are more apt to occur in scarlet fever infection.

Gaylord C. Hall: I find it difficult to add much to what has been said in discussion of Dr. Barbour's excellent paper. I wish to rather refer to an additional complication following the acute exanthemata in children, which I think it would be well to discuss for a few moments.

While in diphtheria there is no doubt as to etiology, there is, in scarlet fever and measles, an ignorance of the true causative factor. As to the role which the tonsils and adenoids play in the production of these conditions, there is still some question. I do not believe, however, that there is any question as to the role they play in the complications of these diseases and during convalescence. It is a very common thing to see children who do not recover, who do not regain their strength after an attack of scarlet fever or measles, and the reason for this in many instances lies in a diseased condition of the pharynx and naso-pharynx. Therefore, the question presents itself as to when is the best time to relieve these diseased conditions and thus hasten the convalescence. I would hesitate for several weeks to operate for the removal of tonsils or adenoids following an attack of diphtheria. As a rule, however, I think the general condition of the child is a negligible quantity, and that an opinion in regard to operation should be based upon the condition of the throat. However, during the past three or four weeks I had a case in which I violated this rule. This case was one of a rather severe form of laryngeal diphtheria in

which secondary infection of the tonsils occurred, and in less than ten days after the membrane cleared up I removed the tonsils. The child seemed to get along a great deal better after the operation than before. As a rule, though, I do not think it is well to operate so soon.

In a case of scarlet fever, where the streptococcus plays an important part, I would hesitate to an even greater extent, because I would not like to open up a fresh wound surface, thus making possible a secondary streptococcal inoculation. In measles I believe that the sooner following convalescence that these glands are removed, the better it will be for the patient.

I do not believe that, where we have a suppurating ear following acute inflammation, in childhood, it constitutes a contraindication to operation for adenoids. In my opinion, inflamed lymphoid tissue in the naso-pharynx is one of the strongest factors in keeping up the discharge. I have seen any number of cases in which middle-ear suppuration, even where it was more or less acute in character, cleared up satisfactorily following operation.

In regard to symptoms of middle-ear involvement, secondary to the conditions under discussion, we are all pretty much in the dark. It is a well-known fact that in such cases, rupture of the drum membrane frequently occurs very promptly. I believe, with Dr. Lederman, that in nearly all these cases the infection originates in the naso-pharynx.

In regard to infection lower down, particularly in the lungs and intestines, I am inclined to believe that the accumulation of pus in the nasal chambers, dripping into the naso-pharynx and then swallowed, might easily reach a sufficient amount to cause symptoms lower down. I am also readily inclined to believe that, as Dr. Lederman said, the condition above is frequently secondary to the intestinal condition.

S. G. Dabney: The gentlemen who have preceded me have voiced my sentiments in regard to the paper, for which I am indebted to Dr. Barbour. Like the preceding speakers, I think infection from the nose is rare; that the infection nearly always originates in the naso-pharynx. An excellent article along this line was recently published by Cobb, of Boston, in which he speaks of middle-ear infection complicating exanthemata. In measles, he says, this complication is most frequent, though not generally most severe. Scarlet fever is next in point of frequency, according to his statistics, and in this the infection is frequently very severe. In diphtheria it is least frequent, and also least typical. This about bears out my own experience.

I think one lesson to be learned from our mistakes is that, when in doubt, we should open the drum membrane. Dr. Barbour will recall a case brought here from the south. This child had a temperature of 104. No sign of pus in the ear

was perceptible only a little cloudiness of the drum membrane, but, nevertheless, I opened the drum. There was a little thin discharge for a day or two and from that time on the child's temperature never went above a hundred, and it gradually subsided and disappeared. It looked like a catarrhal otitis media.

My own conviction is that, in these cases of obscure fever, where there is a sudden elevation of temperature, particularly in exanthemata, and where there is no other apparent cause for the fever, if the drum membrane looks at all abnormal, it is wise to open it. Incision of the drum membrane is a very simple procedure, a few whiffs of gas makes it painless and the child is rarely made sick by it. If there is no infection it will do no harm and if there is infection great good will follow.

In regard to those cases where the drum membrane ruptures within a few hours after the beginning of the infection, I do not believe I can recall any that ruptured that soon. Looking back upon my own experience, my mistake has been that I watched for bulging. I do not believe, gentlemen, that a healthy drum will protrude in a few hours. If we have a little mild catarrhal inflammation, there is no bulging to amount to anything, yet it will destroy the lustre of the drum and eradicate the landmarks that usually guide us. But to say that a healthy drum, with all its outlines clear and distinct, will rupture in a few hours, I do not believe it.

The next point is absence of pain. Frequently these patients do not have pain, and that is not confined to children. Two years ago a medical student in a class I was teaching was being treated for typhoid fever. He did not have any earache, but when the drum membrane was opened his typhoid fever got well. I had been treating the young man for his ear trouble before he was supposed to have contracted typhoid, and I did not think it was the cause of his trouble. He was being treated by a general physician for typhoid. He was having a little discomfort in his ear and I went to the infirmary and opened up the drum membrane freely and he got well.

In regard to glandular enlargement, I am inclined to think that this is due to the same cause that produces the ear trouble, rather than to the ear trouble itself—namely, disease of the naso-pharynx or pharynx. While it is certainly true that the Eustachian tube is more open in children than in adults, and it is consequently easier for pus to drain out into the naso-pharynx, still I do not believe that it very often causes infection in the stomach. I am like Dr. Lederman about that; in the great majority of cases very little pus drains out that way. I think it is very uncommon to find pus in children's noses. Purulent rhinitis of childhood is the only disease in

which it occurs and that is a rather rare condition.

Florence Brandeis: Dr. Hall's remarks about operating early after these infectious diseases sent a shock through me. Dr. Pfingst and Dr. Barbour will both remember a case they saw with me a year and a half ago. This boy had a most virulent attack of scarlet fever, complicated with diphtheria. I reported this case here and reported having used anti-streptococcal serum and diphtheria antitoxin. This child had very mild involvement of one ear. Two years before that illness Dr. Dabney had removed the child's tonsils and adenoids. Dr. Pfingst saw the patient when the ear trouble was subsiding. He made a brilliant recovery, and two months afterward the child was in better condition than he had ever been in his life, but the boy's mother was sure that there had been some increase in the lymphoid tissue in the naso-pharynx. She took him to one of the lights of the profession in this city and he wanted to remove the adenoids. However, I emphatically negated the proposition and it was not done. The following summer his mother took him to a summer resort, and, after telling, as she thought, the whole history of the case, some man there undertook to remove the adenoids and the boy died on the table. My only comfort was that this did not happen while the patient was under my care. I think one experience of that kind would induce one to send these children away rather than operate on them within six months after an infectious disease.

W. J. Leach: I enjoyed the paper very much. It is one of practical importance, not only to the otologist, but to the general practitioner. I am sure that the average general practitioner would not dismiss a case of this kind from his mind as soon as the acute otitis media had subsided, but would go at once to the seat of the trouble. There are many such occurrences and the patients are in better condition ever afterward. As some one has stated, there is nearly always a pre-existing cause, such as adenoids or diseased tonsils, and if these were always attended to as they should be, the specialists would not be so busy and we would not have so many deaf people.

As to infection of the digestive tract resulting from middle-ear disease, I do not see why, if the infection gets into the intestinal tract, it should do not harm, and I cannot see why infection should not get into the intestinal tract. Can you imagine a child swallowing virulent pus without it affecting the general health? I cannot. We frequently see middle-ear inflammation subside without the drum being opened, and we have very good reason to believe that when the Eustachian tube is open the secretion is discharged into the throat. In chronic throat trouble, we see large crypts in the tonsils that contain a lot of caseous debris, and this, I am sure, is not only

disagreeable to the patient, but detrimental to his health.

In London, at the Children's Hospital, when there is any glandular enlargement, they never think of it being caused by the tonsils—they regard it as a sign of middle-ear infection, and the general practitioner, having little time to fool with it, sends the case to the surgeon, who is in another part of the building, and there search is made for adenoids which are nearly always found and removed. They do not wait for the infection to subside; if they find adenoids they remove them. Enlargement of the glands at the angle of the jaw and below is regarded as a sign of tonsillar infection, and in those cases the tonsils are removed. It does not matter very much how the tonsils look at that particular time; they are removed as a routine measure, and it is done thoroughly by enucleation. They have about one hundred and forty thousand such cases every year there, and their records are worth something.

I think the best plan of treating a child's throat and nose is with a spray, and not with a douche. If the Eustachian tube is open, we can readily see how the douche might carry infection into the tube.

Adolph A. Pfingst: One or two points of especial interest have been brought up to-night. As I differ with the gentlemen who have spoken regarding the question of infection of the middle-ear during the exanthemata I am sorry that Dr. Barbour did not say something about the time he has noticed the appearance of otitis, whether during the primary eruption or subsequently. It is my belief that these patients frequently have an eruptive inflammation of the middle-ear during the eruption of the skin. In other words, the eruption frequently exists simultaneously in the mucous membranes of the throat, ear, and sometimes the nose and in the skin.

I was very much interested in an article which I translated from the German several years ago for the Archives of Otology. The author had made examinations of the tympanic cavities of a great many children who had died during scarlet fever, irrespective of whether they had exhibited ear symptoms or not. In every one of two hundred cases some evidence of inflammation in the middle-ear was found.

In looking up the subject of scarlet fever for a paper which I am preparing, I notice that a good many authorities have come to the same conclusion, and it is, I believe, now generously accepted that the scarlet fever eruption takes place in the tympanum at the same time that it does in the skin.

Regarding the question of pus in the noses of children during scarlet fever I would say that I have seen several cases of severe scarlet fever infection, where there was a marked rhinitis with a discharge of pus. Therefore, I am quite sure

that the infection frequently travels into the nasal cavity. I believe, too, that the intestinal tract often becomes infected by the pus which is swallowed with the nasal and pharyngeal mucus. The pus does not always come from the ear, in fact I believe that more frequently it comes from the nasal cavity and naso-pharynx. These cases are the severe ones, in which the discharge from the nose is acid and often excoriates the skin around the nostrils.

The point of diagnosis of middle-ear inflammation by the appearance of the drum is of no little interest to me, inasmuch as I saw a case some time ago in which the drum membranes were, as far as I could see, absolutely normal in every respect, yet rupture of one of them occurred during the night following my examination. This child had had measles.

I also know of a case in which the same thing was observed by another specialist. The drum membrane was absolutely normal when he saw it, yet it broke some four or five hours afterward. So I am sure that it is possible for the drum membrane to appear unchanged, notwithstanding the accumulation of inflammatory products in the tympanic cavity.

There is another point that I would like to hear Dr Barbour speak of in closing. I have never been able to find much in the text books about the association of running ears with teething. An impression exists among the laity that a running ear is started by teething. There may be some truth in this. I will venture to say that every one of us has seen cases of otitis starting up just about the time the teeth commence to come through the gums.

I would like also for Dr. Barbour to say something about retro-pharyngeal abscesses. I have seen two such cases where I was absolutely at sea. The patient had some difficulty in breathing and a slight elevation of temperature, yet there was no visible swelling to determine the cause of the trouble, until finally, in a few days, there was a sudden spontaneous cure. It was my belief that these were cases of retro-pharyngeal abscesses situated high up.

P. F. Barbour (Closing): I have only a few words to say in closing this discussion, which I have enjoyed very greatly.

The main point upon which I wished to lay stress was the diagnostic value of enlargement of the lymphatic glands lying so low down upon the side of the neck. My rather limited experience in adult cases has not shown this enlargement to anything like the same extent as in children. This is easily explicable, because all lymphatic glandular enlargements are far more common in children than in later life. Then, too, in adults, these glands are below the level of the collar and, therefore, are not so often looked for. Their presence has enabled me to diagnose middle-ear trouble long before the breaking of

the drum membrane, and, practically always, I have been able to tell on which side the threatening rupture of the drum membrane would occur first.

Several of the speakers have seemed to feel that infections of the intestinal tract and of the lung, secondary to middle ear abscess, are very uncommon. Being specialists, they hardly come in contact with this phase of the subject. Certainly, I can recall a number of cases of bronchopneumonia and of chronic intestinal and digestive disorders sequent upon discharges of pus into the rhino-pharynx. It does not seem at all improbable that the oozing of pus from the Eustachian tube into the rhino-pharynx, where germs may be inhaled into the lungs or swallowed into the stomach, would be likely to originate disease in one or the other of these important systems. That some complication of this kind does not occur in every case of abscess of the middle-ear is explained by the fact, which has been brought out in the discussion, that a true drainage of the middle-ear into the rhino-pharynx is not very common; certainly not so usual as closing of the Eustachian tube and rupture of the drum membrane with discharge of the pus through the external auditory canal.

I believe that all pediatricians, and many of the general practitioners, will agree with me that these sequelae of middle-ear disease are certainly not a negligible quantity.

I am glad to hear Dr. Leach speak of his recent observations in the Great Ormond St. Hospital in London, of their rather radical treatment of these cases of ear, nose and throat involvement. When I was in London five years ago they had not reached that as their accepted treatment, and, in discussing this very point with several of the physicians in the clinical department, it appeared that the diagnostic significance of these enlarged glands had not been appreciated.

As to the best method of cleansing the nasal fossa, I have believed, as a result of my long experience, that very gentle douching or dropping of mild, alkaline, antiseptic washes, was more efficient and far more easy of accomplishment in young children than the use of sprays. Practically, the ordinary medicine dropper with a little piece of rubber catheter on the end of the glass tube, can be used with any aged child with very little difficulty and very great value to the case.

I hope that the various members of this section will take it upon themselves to watch the condition of these glands so as to arrive at some definite opinion as to their diagnostic importance. I have wished to guard against the personal equation in assigning an undue importance to what has been a great help to me. I am sure, if you will think of it in these cases, its value can be accurately determined.

I am sorry that the discussion did not also

take up other features of the paper which, however, are far less common and probably of less value to the average practitioner.

I certainly appreciated the very full and interesting discussion which has been given to the paper, and I thank you again for the opportunity of appearing before this section.

THE INFLUENCE OF CLIMATE ON PULMONARY TUBERCULOSIS.

BY J. M. MORRIS, LOUISVILLE.

So thorough has been my conviction for many years that some climates are better for the treatment of pulmonary tuberculosis than others, that I have determined to express in this brief paper my reasons for such belief. And so firmly do I believe this, that I feel the physician who persistently advises such patients against a change of climate is criminally neglectful of his duty; for when we fail to give the patient the very best opportunity possible to regain his lost health and prolong his life, we are criminally neglectful of our duty to him. To arrest the progress of pulmonary tuberculosis, the resisting power of the body must be brought to that standard against which the tubercle bacilli can make no further progress. To bring the body to this standard of resistance, three things are absolutely necessary — out-door living and sunshine, proper and abundant nourishment and rest. The first of these conditions, out-of-door living and sunshine, will be considered in this paper. By climate we mean the sum total of the meteorological condition prevailing in a given region over a considerable period of time. It is the average condition of this meteorological phenomena characterizing that place. The weather is the immediate state of those phenomena at a given time. It is important to have this distinction clearly in mind. The weather may be very bad, cold or windy on a given day in a place, when the average and usual conditions forming the climate are those of warm and sunny days; and even the region of generally damp and cold climate may have its warm and dry days of beautiful weather. But climate is the sum total, the average state of the weather, so to speak, to be expected in a given region or place during a considerable period of time. The problem then is, what climate will afford the patient suffering with tuberculosis the greatest power of resistance against the invading tubercle bacilli, it being of the utmost importance for the cure of these patients that they lead a continuous out-door life, it follows, and is plainly manifest, that there must be an advantage to such patient to take them as promptly as possible into a region

where they can most constantly and agreeably, and with the fewest difficulties, lead that life and as the process of healing a tuberculous lesion is very slow, and the establishment of a permanent recovery is to be measured, not by days or weeks, but by months and often years, during which time the patient must lead an out-door life, it is not the occasional pleasant day that counts; but the probability of such days continuing over the long period of time necessary for his recovery. The character of the weather from day to day has a great influence upon the ease and safety in which an invalid can spend his time outdoors. The degree of actual and relative humidity affects the patient's sensation of temperature and his endurance of heat and cold. The advantage of the effects of sunlight upon the pleasure of these patients' out-door life are too obvious to need discussion. The duration of sunshine, the percentage of total possible which is actually realized in any given place is a matter of great importance to any individual suffering with tuberculosis, especially if he is obliged to remain inactive during the cold winter days. In one region there may be out of one hundred consecutive days, less than ten days which are clear; on the other hand there are localities where the number of cloudy days may be equally as few. Even though the atmosphere be equally clear at times, it is not so easy for a patient suffering with tuberculosis to live out of doors where fog and rain are frequent, as where week after week passes without a cloud or drop of rain.

It is not alone the occurrence of days pleasant and suitable for patients to be out of doors without taxing too greatly the energy and vitality, but the frequency—the continuousness of such days. The regularity with which diurnal variations occur, the probability and the degree of sudden changes of the meteorological conditions are matters of very great importance to the person who expects to lead a prolonged and continuous out-door life. Every patient should be placed where the climatic conditions most favor his leading the proper out-door life, for the out-door living is the one condition now universally agreed upon as best for the tuberculous patient; and if these conditions should be found to exist more fully in another climate than the one in which he now lives, he should be advised to remove to that locality at the earliest possible time. As was stated in the beginning of this paper, patients suffering with tuberculosis need three essentials in treatment, out-door living, food in the proper amount and proper time, and rest. The physician's oversight extends to the two last mentioned conditions as well as the first. A change of

climate should be urged therefore, only when it can be made without a more than corresponding loss in the way of proper food and rest, for instance, it would be manifestly bad generalship on the part of a physician to send a patient from home into a better climate who has been supported by relatives and friends at home, and compel him to labor for his support just at a time when rest is most needed; for the good resulting from the better climate would be more than offset by the physical labor he would be compelled to perform in his struggles for the necessities of life. So I would not be understood as an advocating the sending away of all tuberculous patients regardless of their financial conditions. On the other hand, if a patient's condition is such as to warrant his ability to follow his occupation, whatever that may be, he will often find by removing to a better climate that he will be able to prosecute his work with much greater satisfaction than in the moist, irregular climate in which he has contracted the disease.

Another condition for consideration for change in the matter of climate is the mental and moral influence such change may produce on the patient. The change of scene and surroundings often involved in securing a change of climate may have a most beneficial effect by inspiring a new interest in life, renewing hope of recovery and enthusing devotion to that necessary routine of the cure. On the other hand, separation from home and friends may with another patient be so fraught with distress, worry and home-sickness as to prove a bar to improvement. The sunniest skies bring never a smile to the home-sick soul, and nothing short of a return to the old home can alleviate the mental suffering.

Having considered somewhat briefly the advisability of a change of climate in many cases of tuberculosis, the question would naturally arise as to where patients should be sent? There is probably no difference of opinion among those who believe a change of climate is best, as to the advisability of sending them to a higher altitude, but it must be borne in mind that all patients cannot bear well the same height of altitude, and the condition of the patient should be thoroughly understood before a conclusion is reached relative to that part of the country into which he should be sent. Some patients bear a much higher altitude than others, and there is one class of patients to which I would call attention, who are not benefited by sending them to a higher altitude; but on the contrary they are in many instances made worse by the change. The class to which I refer are those cases of frequent hemorrhage where the

bloodspitting is due to increased blood-pressure. Such patients should always be kept in the lowlands. While it is a fact that the influence of climate and high altitude have been known and appreciated by many medical men for a long period of time, yet it is also a fact that there are those who still refuse to admit that there is any good at all in a change of climate—especially change to a climate of higher altitude. We sometimes hear it argued that patients must be cured in the same climate in which they contracted the disease, but such opinion is not borne out by experience. It is also frequently stated that patients cannot return to their native climate after having been cured in the higher altitude. I am inclined to believe that this statement is in a measure true, but who of us would not prefer making our permanent home in a new climate and new country and live out our natural lives, than remain in our native land or State and die prematurely? I also know that many of the sanitoriums in the lowlands claim to be obtaining as good results in the treatment of this dread disease as the institutions located in higher altitudes; but this claim is not borne out by facts, as a careful analysis of the statistics of different sanitoriums will prove; and I want to say just here that almost every sanatorium now in existence in high altitudes, both in this country and others as well, have been founded and are still conducted by physicians who went to these higher altitudes infected with tuberculosis, recovered from the disease, and remained there actively at work ever since, or until the time of their natural death from some other cause—a fact in itself of great significance. I think, when considering this subject of climate and altitude in its relation to the treatment of tuberculosis.

In the year 1901, Dr. O. Amerin, of Arosa, Switzerland, before the British Congress on Tuberculosis in London, expressed his belief in the great benefit derived by tuberculous patients in the mountain air; and more recently at the meeting of the International Congress on Tuberculosis which met in Washington, he emphasized the same opinion. The late Dr. Solly, of Colorado Springs, than whom there was perhaps no better authority on climate for the treatment of tuberculosis, in a paper on Sanatorium Treatment and its relation to Climate, in the Philadelphia Medical Journal, 1900, confirmed, by a set of statistics, the truth that better results are obtained in sanatoria in high climates than in low. This is very strikingly shown where cases of the third or last degree are included, indicating that altitude with sanatoria treatment will even benefit a margin of the most

desperate cases which sanatoria treatment in the lowlands does not and cannot affect.

A careful analysis of these statistics will also show that the results of treatment of tuberculosis patients in higher altitudes outside of sanatoria, about equals the treatment of the same class of patients in the sanatoria in the lowlands. This being true, there can be no question in the minds of unbiased men that the combined sanatoria treatment and benefit of altitude afford the patient better opportunities for recovery than any treatment possible the lowlands can offer.

But I would have it understood just here, that I would not for a moment underestimate the good being done by the sanatoria and other institutions in the lowlands,—far from it, because there are many patients who cannot possibly remove to a different climate on account of the lack of means and other good reasons, and to such I should say they ought to be very grateful that they have the opportunity of being treated by competent, painstaking physicians and nurses at home, but just on the same principle that we would remove a working man who was poisoned by working with lead paint, or other poisonous materials from the infected atmosphere in which he became poisoned to a locality not so infected, in order that his system could be able to throw off and eliminate its poisoned condition, just so, when practical, we should send the person affected with tuberculosis out of the atmosphere in which he became infected into a higher and purer climate where he not only would not take any more of the infection, but would be able to bring under arrest the infection, and later eradicate it. And I would like to state just here that it is claimed by men in position to know that tuberculosis is never contracted in these higher altitudes to which I refer by those persons going there from lower climates; that the life of the tubercle bacilli is very short when exposed to the atmosphere of these high and dry climates, and no matter how closely one may be associated with a tuberculous patient there, they are in no danger of contracting the disease.

It is needless to discuss in detail the properties of the high altitude and climate, the low barometric pressure, the dry and pure air, the abundance of sunshine and its great actinic power, the greater number of bright, clear days, especially in winter, the season in which there is naturally so little sunshine and it is just these climatic qualities which enable us to carry out the open-air treatment in a most thorough manner. Moreover, these climatic circumstances have a direct physiological effect upon the human body, and especially upon the tuberculously affected or-

gans, so that apart from amelioration of the blood and the increased vitality of the bodily functions as a whole, we can see a distinct and direct influence upon many pathognomonic symptoms. For instance, it is astonishing how quickly cough and expectoration improve in a high altitude climate. The purity of the air with its freedom from germs, together with its clearness, put an end to the perpetual and continuous irritation from which the air passages had been suffering. The effect upon the weakening and distressing night sweats is equally marked; they begin to disappear almost as soon as the patient arrived in the higher altitude. Dr. Amerin, of Switzerland, states that during all the years he has been attending patients at his sanatoria there in the mountains, he has never given a medical prescription for the stopping of the night sweats, the trouble always ceasing in a reasonable time under the influence of the climate. It is often argued that a tendency to hemorrhage is a contraindication for the higher altitude treatment; many communications and statistics published by Turban, Edgar, Amerin and others, have shown that hemorrhages do not occur more frequently, but on the contrary are less frequent in high than in low altitudes, with one exception mentioned elsewhere in this paper, that exception being those cases in which the hemorrhage is due to an increased blood-pressure. Such cases do not do well in the higher altitudes. Again it is believed by some that cases running very high temperatures should not be sent to the higher altitude, but all physicians who have attended patients in these higher climates have found that no evil effects arise to such patients. On the contrary, they very often see the fever which has already persisted for a long time in the lower climate, lessen and disappear in the higher localities. As a matter of fact, much depends upon the character of fever as to whether or not it will be readily influenced by altitude; for instance, it is a fact that hectic fever due to destructive process in the lungs and a progressive loss of vitality, will not be materially influenced by altitude until such process in the lungs has been improved by improving the general condition of the patient. But this general improvement, we believe, goes on much more rapidly in the pure mountain air than in the infected atmosphere of the lowlands. It is also true that in those patients where the fever has persisted for a great length of time, that the influence of high climate is not so perceptible at first as in those cases of shorter duration.

Now to sum up, I desire to say the evidence which has accumulated through many years of study and observation of this subject is be-

lieved by the highest medical authorities to prove that a higher altitude is a great aid to the arrest of tuberculosis, and that the high and dry climate, such as is offered in Colorado, Arizona or New Mexico has been pre-eminently successful in bringing about the most desirable results. And now before closing this somewhat rambling paper, I desire to mention some personal experiences relative to the subject under consideration. In the summer and autumn of 1905 I spent several months in the cities of the Rocky Mountain region, including Denver, Boulder, Colorado Springs, Albuquerque and other smaller towns, and while there I met many people who had gone there from all parts of the country infected with tuberculosis, some having gone in the early stages of the disease, while others had gone in its more advanced stages. These people had been restored to their natural health—in other words had been cured of this dreadful disease by which they had been infected before going into this higher climate, and had again become useful working members of society. One case related to me, I particularly desire to mention. While talking to a native Mexican, a man above the average Mexican and Indian of that country in intellect and industrial ability, related the following incident: A few years before, he said, a wealthy New York man came to Albuquerque quite advanced with tuberculosis. He stated that the New York physicians had told him that he must die soon in that climate. The man, soon after his arrival in Albuquerque, secured an ordinary mover's wagon with a team of gentle horses, and securing the services of the Mexican to pilot and take care of him, set out on his journey over the Rocky Mountains. They took some provisions with them, but depended largely for sustenance on the fish and game they could secure while on the journey. When first starting, the invalid could eat but little, scarcely being able to walk alone, but by and by as the days passed and they were spending their days and nights in the cool mountain air, he began to show signs of material improvement. It was not long before he began to be really himself again. His voice became stronger, color began to return to his cheeks, he began to take interest in life again; cough, night-sweats and fever became less severe, and the whole aspect of the man became changed. This journey lasted six months, at the end of which time they found themselves at the entrance of National Yellowstone Park, several hundred miles north of where they had started from six months before, and now we come to the most interesting part of this narrative. The man had gained exactly one hundred pounds, was strong

and vigorous in every way, had no symptoms of the dread malady, which had brought him so near to death's door while in his Eastern home; in a word, six months' out-door living in the mountain air transformed him from a dying man to that strong, vigorous being he was before he became a victim of the great destroyer of humanity. My personal experience in sending patients to other climates has been very gratifying. During the last two years I have sent to Denver and placed in the hands of Dr. M. Kleiner of that city, the following cases with the gratifying results as follows:

In 1908 I was consulted by Mrs. H., age 35, and found the symptoms of tuberculosis well marked; fever, cough, night sweats, considerable loss of flesh, tubercle bacilli abundant in the sputum, with all other symptoms that go to make up a case of rather advanced tuberculosis. I determined to treat the patient at home owing to the financial condition of the family, and for three months I gave the best treatment I could give her under the circumstances. At the end of this time it was found she had lost still more weight and her general condition was materially worse. It was evident that she would die in this climate within less than a year, and I so stated to her and her husband. At my very earnest solicitation they went to Denver and became a patient of Dr. Kleiner with the following results: She reached Denver in fairly good condition. She did not enter a sanatorium, but began housekeeping as they had done before. The doctor gave her no medicines as he told me, but gave practically the same instructions as to her method of living as I had given here, to live practically out-doors, take the proper rest, the proper food, consisting largely of milk and eggs and other easily digested food. The improvement of the patient was apparent from the time of her arrival in the higher climate, and at the end of eight months she was apparently in as good health as ever before her illness began. She has now been there nearly two years, and the last report which I had from her shows that she is still apparently in perfect health.

Another case I desire to mention is a brother of the case just reported. Age 28, married. He had been treated by another physician for several months, during which time he had had a number of rather severe hemorrhages. He came to me very weak and emaciated with all the symptoms of tuberculosis well marked. Tubercle bacilli present in the sputum. I advised a change of climate at once. He accepted my advice and left for Denver immediately. The reports from his physicians show equally as good and gratifying results as the previous case. Within four

months he was able to take up his ordinary labor, as pursued here before his illness, and now eighteen months after his arrival in the high climate he appears well and vigorous with no apparent return of the disease and no inclination on the part of the patient to return to this climate.

Another case I wish to mention is that of a young man aged 28 who came into my hands April 29th of this year. He came to this city expecting to make his home here. He had only been here a few days when he was seized with a violent pulmonary hemorrhage, losing a great deal of blood. I kept him in bed for three weeks, at the end of which time he had another severe hemorrhage. I kept him under my care for two months, during which time he had numerous slight hemorrhages and about held his own so far as strength and vitality are concerned, but gradually lost weight. I determined at this time to send him from home, and he also went to Denver, and while he has only been there 10 months the reports from the doctor who has him in charge are in every way encouraging. He has had no hemorrhage since arriving there, his symptoms have all largely diminished, he is now regularly engaged at his work, which he had not been able to do for three months before he left home, and while he has not been in a high climate long enough for a cure to be effected, from all the symptoms we would believe the disease has been practically arrested and that all now necessary for him to do is to remain there long enough for a permanent cure to be effected.

I desire to state that none of these cases mentioned had the benefit of sanatorium treatment, but were treated on practically the same plan there as they were here before making the change.

I have within the last few days received a report from Dr. Kleiner, of Denver, under whose case the above patients have been since leaving here. His report is as follows:

All the patients you have sent to me are able to work, do not cough, have gained materially in weight, and the disease is to all practical purposes latent.

Dr. Kleiner says further:

After twenty years of experience in Colorado, I am convinced that climate is a very important actor in the treatment of tuberculosis, and that 85% of all cases who come here with sufficient means necessary to receive the proper care get well.

This statement comes from a man who has given twenty years to the study and care of tuberculous patients, in a high climate, after having spent the earlier part of his life practicing medicine in New York City.

The report of one more case and I will

close: I was called to see a young man aged 22, in the month of March of 1909. Found him having profuse hemorrhage. Had been complaining somewhat for several months previously, but had continued at his office work until the time the hemorrhage occurred. Hemorrhage continued at intervals for fourteen days. Patient became very weak during the next three months; fever, night-sweats, loss of weight, loss of appetite and other symptoms were continuous. The tubercle bacilli were found abundantly in the sputum. Dr. Carl Weidner, Sr., and Dr. Rembert, then superintendent of the tuberculosis hospital of this city, saw him with me; both gave very unfavorable prognosis. Dr. Rembert refused to take him to the sanatorium on the ground that he did not believe he could be benefited there. I treated the patient in the best manner possible during the next three months, during which time his condition did not improve. I determined to send him to Asheville, N. C., and place him in the Winyah Sanitarium there, under the care of Dr. Carl VanRouek. Examination at the sanitarium showed a cavity the size of an English walnut in the apex of the right lung, and the disease fairly begun in the apex of the left lung. The condition of the patient began to improve slowly from the time of his admission to the institution, and has been continuous to the present time. He has now been there 30 weeks, has gained an average of one pound during each week of his stay there, amounting to 30 pounds altogether, cough, night-sweats and fever have all disappeared, he is cheerful, full of hope, feels as well as if he had not been sick. Unquestionably the disease has been arrested, and if the patient remains long enough there can be no question of his ultimate recovery, which I feel sure could never have been accomplished in this climate.

I desire to say this patient had also the benefit of the tuberculin treatment. The tuberculin was prepared by the authorities at the Winyah Sanitarium. I herewith append the last report from Dr. Karl Van Rouek relative to this case. The report is as follows:

"I am glad to be able again to make another favorable report in regard to Mr. M's condition. His continued improvement looks very encouraging for the accomplishment of the entire arrest and cure of his disease."

A still later report received after having written this paper states that the above-mentioned patient will be discharged as cured within the next 30 or 40 days.

DISCUSSION.

J. A. Flexner: In his paper Dr. Morris uses the term "criminal" as applied to those who see fit to differ with his opinion, and I sim-

ply rise to ask what he would consider proper punishment for the crime?" Men have a right to differ in opinion without one or the other becoming criminal, and such a statement should not, I think, be allowed to pass unchallenged. I take the liberty of disagreeing with him radically. I do not think the question of climate touches the subject of tuberculosis side, top or bottom. It is a question of dollars and cents; it is more a commercial than a medical problem. No man with any experience or sense, but knows that here and there, there are instances where these patients will do better when sent to another climate, but for every one such case in the city of Louisville that can be sent West, there are one hundred in which it is a financial impossibility, and the statement that a man who does not send such cases away is criminal is too broad to go unchallenged.

I am simply curious to know what Dr. Morris is going to do with myself and some other men who do not agree with him.

W. F. Boggess: Dr. Morris has read a most excellent paper on a subject which is of interest to every physician in the city. There is much in his paper that is good and orthodox, but I am rather inclined to believe with Dr. Flexner, and have always held, that, for every patient who can be sent West and live out there contentedly and happily, we have a hundred that cannot be sent West. Unless you can move the family and give the patient all the comforts and luxuries he is accustomed to get at home, and he can thus escape the dreadful nostalgia that comes to the sick person away from home, it will do him more harm than good. I am a little averse to sending a tubercular patient to any climate unless he can be placed in a sanatorium where he can be absolutely controlled and looked after in a truly scientific way. The profession must get away from the idea, which has been rather forced upon us, that climate and food is everything in tuberculosis; there is a great deal for the physician to do other than simply recommend that the patient sleep out-of-doors and live out-of-doors, and eat eggs and milk. There is much in a medical way that can be done, and it can and should be done scientifically.

Just one word about climate. There is one type of tuberculosis that I have never seen do well in this climate—that is, tubercular laryngitis. On the other hand, I have seen a number of cases of tubercular laryngitis, even in advanced stages, get well in such climates as that of New Mexico, for instance.

As to the natives of the higher altitudes not having tuberculosis, Dr. Morris' statement in that respect is not strictly true. I am sure that a great many natives of Colorado—people who live in the high altitude of that State and have never gone out of it, die of tuberculosis. For instance, two years ago one of our old medical

students, who was practicing medicine in the higher altitudes of Colorado, far above Pueblo, contracted tuberculosis, and his physician told him that he would have to get away from that climate to a lower altitude, and sent him to El Paso. However, he continued to go from bad to worse, and then came to Louisville and died of a rapidly developing tuberculosis. He had not been out of Colorado in seven years. I have two personal acquaintances in Denver who have consumption. They have lived there for years and contracted the disease in Denver. Therefore, I do not believe the statement that climate alone can cure tuberculosis is to be accepted absolutely. I do believe, however, that these patients will do better in any climate that furnishes more sunshine, a more equable temperature and more oxygen in the air than is the case in Louisville. The climate that offers all these things is the one to which we should send our patients when it is possible to send them away.

Franklin M. Walker: I do not know what Dr. Boggess is going to do with all the patients that go to these different resorts and cannot obtain admission. Take Trudeau's, in the Adirondacks, as a type; probably 125 to 150 patients can be accommodated in the sanitarium, whereas the population of the place is about 50,000, fifty per cent. of which is floating. Most of them are hopeless, and only incipient cases can get into the sanitarium.

One case that has naturally interested me more than any other was that of my wife, who went to Trudeau's in March, nearly four years ago and spent seven months there. I have heard a great deal said about the climate in Colorado, Texas, and New Mexico, but nothing about the Adirondacks. The altitude there is from 1500 to 1800 feet, as compared with a mile upward in most of these western resorts, and I believe they have as many kinds of weather at Trudeau's as the Lord ever sent anywhere. After living there a few months, one can go anywhere on the face of the globe and live, and we know that is not true of persons who go to the higher altitudes. When they go away from those altitudes they die very promptly. I have seen a number of cases of the kind. On the other hand, the many kinds of weather encountered at Trudeau's accustoms one to almost anything, and they can come back to the Ohio Valley, or anywhere else and live. When my wife came back here after a period of seven months at Trudeau's, her temperature had disappeared long before, as well as her cough, but bacilli were still present in the sputum—possibly three or four in the entire slide. She has continued to improve and has gained in weight appreciably.

I think Trudeau's personal experience in the Adirondacks will bear out the statement of the gentleman Dr. Morris named. Forty years ago he went there with one lung entirely gone and

the other not so very healthy. He is still doing business at the same stand and is building a monument to his memory that will live forever.

Dr. Morris (Closing): I appreciate the discussion of my paper.

With reference to Dr. Flexner's remarks, I will say that I use the same term exactly in connection with any other condition that I do in this. I believe that any physician who does not afford his patient every possible opportunity to get well, either of tuberculosis or anything else, is criminally neglectful of his duty to that patient. I do not retract that statement in the least.

With reference to Dr. Boggess' remarks, I thought I had made it as clear and explicit as possible that I do not condemn the sanatoria in this climate or any other climate, and that there are many more patients who cannot go away than there are who can, and that such patients should be very thankful for the opportunity of being treated here by competent and painstaking physicians and nurses. On the other hand, I stated emphatically that those patients whose financial condition will permit of their being sent to better climates, and who were willing to go, should be advised to do so. I believe it is the duty of every physician to advise such patients to go to a climate where their chances of recovery are better than they are in this climate.

I have stated facts in my paper which I believe any fair-minded man will accept as true. I did not theorize in any respect, and I stand ready to establish any fact stated in my paper.

RATIONAL TREATMENT OF HYPERTENSION AND SCLEROSIS OF ARTERIAL SYSTEM.

BY CURRAN POPE.

It is usually customary to open an article of this character, with the trite saying that "A man is as old as his arteries," but I think we may add to this that life, liberty, and the pursuit of happiness likewise depend upon them. We all meet these lesions although they are especially provocative of nervous and mental mischief. It is a condition of affairs rarely suspected by the victim, often overlooked by the physician and frequently treated symptomatically under numerous headings. It is the lesion *par excellence* of the strenuous man, of the man who lives hardest above the cars and for that reason, early diagnosis and rational treatment becomes a matter of very great importance, for here the pound of prevention is worth forty of cure.

The heart is a force-pump, approximately 6x4 inches; it averages about seventy beats per minute, 4200 per hour, 100,800 daily, 36,792.00 annually and 2,575,444.000 in the life

allotted to man by the Psalmist, that is, seventy years. It averages 2 1-2 ounces of blood per contraction, 175 ounces per minute, 656 1-4 lbs., per hour or 7 1-2 tons a day, which is the equivalent of lifting one ton 122 feet high in a day. It should be remembered that the thirty pounds of blood that is contained in the body passes through the heart each three minutes. The arteries of the body are normally elastic, and this elasticity is a *sine qua non*. The tension within the arteries depends upon four factors; energy of heart contraction; resistance in the peripheral vessels; activity or elasticity of the arterial vessel walls and lastly the volume of blood circulating. All of these conditions act usually through and are brought about by the influence of the vaso-motor system. Normally, the vascular system protects itself against constant variations in pressure by the intimate relations that exist between different parts of the system, changes of the blood supply of one organ or set of organs, being met by an opposite change in another organ or set of organs, thus maintaining the level. This co-ordination of different parts of the circulation is carried out through the widening and narrowing of the lumen of the blood vessels, by contraction or relaxation of the muscular fibres in the walls of the arteries, capillaries and veins. This action of vascular muscle is usually controlled by vaso-motor nerves, these, in turn, possibly being influenced by the secretion of certain internal glands; the suprarenal raising, and the thyroid lowering, blood pressure.

In speaking of hypertension, I wish it clearly understood that I mean what is generally so denominated; that is, more or less permanent rise, that exists without sufficient factors to diagnose arterial sclerosis or nephritis, but which means in the end, if unchecked, all those cardio-vascular conditions that are the result of those factors producing the hypertension or will result from the hypertension itself. The probability that one has to deal with, some localized sclerosis of cerebral, splanchnic or renal origin, that is not or can not be definitely discovered, must never be overlooked. True sclerosis is characterized by thickening of the walls of arteries, due to morbid changes. I am inclined to accept the division of high arterial tension into three stages, the first of which would be characterized by persistent high tension, due to hypertonicity of the muscular coats of the arteries and arterioles, the stage of presclerosis of Bonchard; the angiosclerosis of Von Basch, and the chronic hypertension of Cook. The second stage would involve the progressive fibrosis, which causes increased obstruction in the arteries of certain areas and the tendency

to heart exhaustion and insufficiency. Sir Lauder Brunton believes that the substances that raise arterial tension in advanced life are unknown, but are probably some product of the internal secretions, and tissue metabolism, that tend to cause contraction of vessels with subsequent rise of blood pressure. Furthermore, that the products from an albuminous diet during digestion in the intestines have a similar effect. Involutionally it is normal to advanced life, but it may appear in young subjects, whose vessel walls are weak and who inherit this tendency. It is more frequently found in males, because of the diseases to which they are subjected, and to the more strenuous life that is led. Alcohol with its degenerative influences, rheumatism and gout with their toxic products, tend to produce the disease. Syphilis, either as an inflammation of the arteries themselves, or as part of an infiltration in which gummatous nodules may occur, is undoubtedly a frequent cause. Of the acute infections, typhoid fever is by far the most serious, as well as the most prolific cause of the disease. I cannot but pause a moment to note the great value of hydrotherapy, in this infection, not only for typhoid fever *per se*, but as a preventative of after vascular damage. Hydrotherapeutics of the fever controls and eliminates toxins, preserves and increases the elasticity of the arteries and is a true preventative of subsequent sclerosis. Athletics pushed beyond their usual limits, producing morbid strains and great pressure or the simple overwork of the muscular tissues of the body is frequently to be found underlying its manifestations. But by far the most frequent cause originates in those putrefactive changes that take place in the intestinal tract, especially where they are accompanied by eating and drinking, not necessary alcoholic beverages, but simple fluids, which overfill and distend the blood vessels. To the student of these conditions, we are apt to accept Houchard's statement that this trouble begins in intoxication, continues in intoxication, and ends in intoxication. The symptoms depend on the region affected, and it would be foreign to this article to more than simply sketch rather than describe them. In the cardio-vascular system we find arrhythmia, second sound accentuated and ringing, hypertrophy of the left ventricle compensatory to the peripheral resistance, later, its apex displaced, with dyspnea, palpitation, murmurs, dilatation with symptoms of valvular insufficiency and angina pectoris. Myocarditis is not an infrequent lesion.

The kidney may be the cause or be affected by arterial sclerosis. Its parenchyma atrophies from want of blood supply, giving us

the sclerotic kidney with an urine that is abundant, of low specific gravity, with intermittent traces of albumin; few epithelium and casts or cylindroids. In the mental and nervous sphere, we find loss of memory, of immediate past; mental confusion, inaptitude for mental work, followed by lassitude, disability for continued reading, parasthesiae, numbness, headache, vertigo, precordial oppression, insomnia, hemorrhage, transient hemiplegia palsies, etc. Sometimes it manifests itself in reduced vitality and in this way alone. Some have described a facies and peculiar pallor, especially noticeable around the mouth, temple and eyes, with a dryness of skin, but I have never been able to satisfy myself on this point.

What constitutes normal arterial tension? From considerable personal experience and from a consultation of a large number of authorities, I am inclined to accept the following as within normal limits, when using the wide 12 cm. cuff:

Up to the 14th year	90—100mm.
Young adults, 15 to 21 years . .	100—120 "
Adults 21 to 45 years	120—135 "
After middle life, 45 to 65 years.	135—150 "

Janeway puts the matter well when he says that blood pressure in the young adult above 135, in adults 145; after middle life 160 mm., is suspicious and that the lower limit in health for adults should be 90, and children 80 mm. It is oftentimes of great advantage to know the pulse pressure, which is normally 30 mm. This is the reading between the systolic and diastolic pressure. It gives a pretty fair index, especially after exertion, or the functional power of the heart. It must be borne in mind that pulse *rate* has little relation to blood pressure; that blood pressure rises during menstruation, the menopause and from over-activity of the suprarenals, after exercise, excitement, worry, etc. The pathological anatomy is too well known for me to stop and call your attention to more than one or two points that I consider of interest. We may sum up by saying, that the dominant primary event in arterial sclerosis, no matter what its origin is an increased tension, with a localized or it may be a diffused weakening of the arterial walls, especially of the mediastinum, which induces increased strain upon the remaining coats; if this be not excessive, that strain leads to connective tissue growth and the development of the characteristic lesions of arterio-sclerosis. Remember that where the arterial muscle is held in extreme tension, it degenerates, because of diminished movement and activity and because the metabolism of its structure is prevented. Again; high arterial tension oftentimes is the result of a physiological demand and if this ceases,

the pressure subsides, but the arterial damage may remain, and thus we can have a low or comparatively low blood pressure with sclerotic changes. Always bear in mind the frequent association of miliary aneurisms in the brain, which arise from the same concomitant causes and which may at any time produce apoplexy. I can but dwell on the absolute importance of diagnosing changes in the vascular system. To overlook same is to nullify almost all kinds of therapeutics, no matter for what lesion the physician is medicating. In the very early stages the poverty of symptoms may lead to error; in the latter stages the profusion of evident structural changes, whether cardiac or cerebral, may cause the physician to lose sight of the disease in the study of its effects. It is in the mid-period that it is most likely to be recognized.

When we find an individual suffering from fatigue on slight exertion, with abnormal sensation in the limbs, with some difficulty in movement; slight pains here and there, with flushed, florid face; slight loss of hearing, slight headache, vertigo, reeling or insomnia; with occasional changes in character, with palpitation of the heart, and *hypertension*, all made worse by labor or fatigue, and with *no evident* brain, kidney or heart disease, search deeply, and you will find vascular disturbance or commencing sclerosis. My experience has taught me that the ringing and accentuation of the second sound of the heart is a valuable early sign, and which we will find as a rule to become harsher as the aortic valves and arch of the aorta become rougher. The ophthalmologist can often give valuable aid in the diagnosis. Thickening of the retinal arteries, high light of the arterial image and the compression of veins, where crossed by arteries will give the key note, early in the course of the disease. Later, the movement of the apex beat from the fifth interspace between the mammary and parasternal lines, towards the axillary line, is noted, for as the base of the heart becomes fixed as a pivot, it forms a firm center, around which the heart swings with its elongated left ventricle. Palpable arteries are more often noticed in those who give a history of heavy physical labor, and in those who have suffered from gout, rheumatism and typhoid. Here the Roentgen Rays will throw shades upon the plate in proportion to the calcium deposited in the artery and shown in the radiogram exhibited herewith. The fluoroscopic screen will enable an enlarged heart to be mapped out far better than by percussion and I wish here to admit, that so far as I am concerned, I have found it very difficult to map out the increased area, particularly where the lungs overlap, although it is easy between their borders.

Kroenig describes a "step-like line," which allows of determining fairly well the right side, which is an advantage.

A slower pulse rate standing, than in the recumbent position should lead one to *suspect* arterial disease, as well as a trace of albumin in the urine. Probably no more certain diagnostic agent can be found in this disease than the sphygmomanometer, a useful clinical instrument, possessing great practical utility. With increasing experience, one learns to differentiate and to depend upon its reading; in fact, no practical physician today should be without this instrument.

Treatment can do much, especially to those, who have not inherited bad arteries. Hypertension can be cured but sclerosis, from the very nature of the affection, cannot, but is amenable to many measures that check its progress and prevent disagreeable consequences. Explain to your patient what the diagnosis means, tell him frankly the time has come when the engine cannot work at high speed and pressure, that the price of comfort and life can only be purchased by obedience to medical supervision and by careful conscientious living. Many will accept this in the spirit that it is given, others will rebel and refuse the advice; others will not obey, and thus the outcome of your therapeutics depends frequently upon the kind and character of individual with whom you are dealing. *These cases must realize that they are to remain under the general supervision of the physician the rest of their lives.* Their life must be quiet and regulated, avoiding sudden exertions of all kinds. They must learn to put the hand brake upon overwork, haste and unrest. Sufficient occupation to prevent fretting and worrying, but it should be constantly borne in mind that mental and nervous excitement, especially emotional disturbance, react on the heart and blood vessels, causing vascular tension and for that reason, strong and repeated emotions may increase the lesions. Get him as interested in keeping himself well as he takes in his business, cutting down hours of labor, increasing those of rest and recreation. Short vacations are very valuable and should be taken, especially by those who are likely to have this disease; this applies especially to physicians, financiers and politicians. Dress warmly at all seasons of the year, for a warm skin means that there is more blood in it than when cold. Watch and overcome constipation. It is the duty of the physician to frequently examine the patient. Diet is most important. *The key note is to maintain general nutrition.* "Cut out" at once all alcohol, tobacco, coffee and probably tea. Reduce meats to a minimum, and where these

are allowed, give preference to eggs, fish and fowl. Never eat until hungry, then eat a small meal slowly, masticating, consuming no fluid, thus preventing hyperemia, as much as possible, of the splanchnic vessels with increased action of the heart, obesity, etc. Practical experience has taught me that a no-proteid, or low proteid diet is unquestionably the best, for adults can perform most of their work on carbo-hydrates. It should be remembered that proteids (meats) carry into the body, germs, are good germ media, and that they putrefy easily in the intestinal canal. Where meats are allowed, watch the the urine for indican and if this appears, shut them out altogether. The best diet consists of milk, butter milk, fresh and stewed fruits with little sugar, practically all vegetables, cereals, a moderate amount of fats, preferably vegetables, breads, stale and dry.

Massage and vibration have the distinct advantage of dilating the peripheral blood vessels, lowering blood pressure, favoring tissue metamorphosis, destruction of toxins and renal elimination. It should be applied especially to the spinal region, for two or three inches on either side of the spinal column, and should be heavy enough to convey deep percussive to the tissues below. Abdominal kneading, where it is not too severe, or long continued decidedly reduces blood pressure.

Light can be employed with advantage in these cases, either as the incandescent electric light bath, or by using the 500 c. p. single light. These relax the peripheral tissues, especially the arterial capillaries, promote perspiration and in this way force elimination from all the excretories by lowering blood pressure, lifting the load from the heart and kidney, displacing the blood from the interior, into the surface skin.

Climate has no influence other than making the patients more comfortable, and enabling them to exercise; a dry, inland climate of moderate elevation, that is bright, sunny and genial in winter, is decidedly the best. These cases must avoid altitudes of 3,000 feet or over; 5,000 to 7,000 feet are dangerous and may cause heart collapse, apoplexy, etc.

Exercise is very important, but we should caution against violent or sudden exertion or exercising too long at any one time, so that fatigue is felt for some time thereafter. The strenuous exerciser must be restrained, the lazy individual encouraged to do muscular work. Moderate exercise to the point of fatigue, in the fresh air, gauged to the point of producing an agreeable warmth on the surface and slight perspiration, will be found all that is necessary. Walking in park or country on the level; sedate bicycling or

horseback riding, may be allowed to almost all cases. The exercise, however, that I believe to be ideal, combining, as it does, all the beneficial features and pleasures of exercise is to be found in the game of golf. While this is principally walking, there is enough respiratory and trunk exercise to make it of all around advantage. This muscular work means again, the dilation of the surface blood vessels with the lowering of tension, a lessening of work upon the heart. In far gone cases, gentle breathing exercises or gentle resistance movements that are slow and steady and which have been found useful for cardiac cases may be employed. These, I have described elsewhere.

Electricity will be found of considerable value, but it must be borne in mind that, as generally applied, it is valueless. I am fond of using two methods; the high frequency current of auto-condensation and auto-conduction, and the static wave current. The latter current, the static, does not possess, in my opinion, anything like the power of the high frequency, in the permanency of its effects. The patient, when treated by a high frequency current, is thrown into a field of high potential stress, which is a very active agent in increasing cellular changes; the frequency and amplitude of respiration, the amount of oxygen taken in, and carbon dioxide exhaled; the oxyhemoglobin and its chemical affinity is enhanced, the quantity of urine is increased, as well as the elimination of the phosphates, chlorides, sulphates, urea, uric acid and total nitrogen. Its acidity is markedly diminished. They eliminate the toxic substances and by their own peculiar action diminish arterial tension, showing their effects immediately after an application. They are real prophylactic agents in hypertension against sclerosis. The dosage which in my opinion, must be carefully measured by the hot wire meter, should range between 300 to 400 m. a., with a duration of from ten to twenty minutes. I deem perspiration while taking the treatment an excellent sign of the good results obtained. It may be noted here that exercise and other physio-therapeutic treatments, all produce reasonable perspiration. Auto-conduction has the advantage of not causing a preliminary rise of blood pressure, while auto-condensation does. It should be borne in mind that as effluvia of the abdomen causes splanchnic stimulation and raises blood pressure it must be avoided.

Where the nutrition is poor and the functional activity of the organs of the abdomen is below par, the static wave current to the epigastrium will be found most awful. Its surging, oscillating, and vibrating character relieves capillary gymnastics, increases met-

abolism; forces elimination, relaxes non-striated muscular tissue, gives smooth rhythmic slow movements, and is usually followed by tone and invigoration. It may be stated that the *galvanic, faradic and sinusoidal currents possess no value* in this disease. I have found the combination of incandescence light baths, ozone and high frequency currents the most powerful method of prompt reduction.

Hydrotherapy is very useful in the treatment of this disease. In the very early stages, we may commence by cautiously administering the full dry pack, followed by a rapid cold sponge, care being taken to keep the head cool. As soon as we have tested the reaction of the patient we may administer the electric light bath until perspiration takes place followed by the horizontal rain bath at 100° to 105° for one and one-half minutes reduced at first to 80° F. for one-fourth minute; pressure twenty pounds. Cautiously reduce the temperature one degree daily, studying the reactive capacity of the patient. Huchard says that he has found the low-pressure *neutral jet douche* at 92° to 96° F., applied to either side of the spinal column for three to eight minutes, a powerful nerve sedative and circulatory help. He gradually passes to the neutral horizontal rain or circular needle bath for one or two minutes, gradually reduced to the point of pleasant coolness, this to be regulated by the patient. I can unquestionably substantiate his experience and statement that "heart diseases and other pathologic conditions of heart weakness are very often dependent not only upon the heart itself and its innervation, but also upon peripheral innervation, and that when sedation occurs the general disturbance improves or ceases." Hirschfield believes that where they can be borne the *hot full bath* is an excellent home method; the skin becomes vascular, relieves the internal organs, lifts the load, relieves insomnia, increases metabolism and oxidation, eliminates waste materials and increases the vascular "habit" of the entire. In most cases where the heart is involved it is best to commence with the carbon dioxide bath, gradually increasing its strength as the patient responds. This method is especially valuable where we have a concomitant cardiac dilatation, as it strengthens the heart muscle.

Regarding the use of baths and gymnastics in arterio-sclerosis, J. Groedel, of Bad-Nauheim, who has given special attention to the treatment of arterio-sclerosis, contends that, although the increased blood pressure, "considered as the usual consequence of treatment by the Nauheim baths, may, at first sight, seem to indicate that every patient with arterio-sclerosis should be excluded from a treatment by baths a further increase of

the high blood-pressure usually found in arterio-sclerosis must not only surcharge the heart more than is already the case, but also create the danger of the bursting of a cerebral aneurism, so often present in cases of arterio-sclerosis." He has by numerous observations been able to convince himself that baths can be prescribed for these patients "in such a manner that the increase of blood pressure does not take place, or only in a very slight degree." If the temperature be kept almost at the point of "indifference"—that is, about 92° to 93° F. (33.2° to 33.8° C.)—the primary acute increase of blood-pressure caused by the contraction of the cutaneous vessels, and most to be feared will be very slight, and if, there be carbonic acid in the bath, it will at the same time quickly disappear. If the skin of the patient be cooled somewhat by moistening the parts particularly sensitive to cold before entering the bath, the avoidance of that primary increase of blood-pressure or indeed, any shock whatever, will be the more certain. A similarly good effect is produced, when the patient is only allowed to take half baths, and the exposed parts of the body are wrapped up, so as to prevent cooling. In most cases the amount of water can be increased little by little at each bath until a full bath is at length attained, but even then it is advisable to let the patient only submerge his body by degrees. Placing cold bandages on the bather's head is often indicated. By proceeding cautiously in this manner he has never had an unfortunate case in the course of a practice of twenty-two years in Nauheim.

Under what conditions is a course of baths indicated or beneficial in cases of arterio-sclerosis? It is mostly a question of diseases based on the same etiological principle as arterio-sclerosis itself, or such as usually lead to it. By combating these we can at the same time retard the progress of the sclerotic process in the vessels.

I am satisfied *drugs* are of some value, especially the iodine preparations, the iodides of potassium, sodium and strontium, given in very small doses, not because we believe the trouble is syphilitic, but because we believe in their eliminative effect, rendering the blood more fluid, acting favorably upon nervous symptoms, lowering blood-pressure and allowing nature to do its work. It should be given for long periods interrupted every few weeks, always after meals, well diluted, best in combination with the bicarbonate of soda or potash.

I have found thyroid in small doses to be very useful in preventing the progress of the trouble, its action being that of an antagonist to high blood pressure.

Every case should have from time to time, (two to four weeks), a course of mercurials, my preference being for blue-mass over all the other forms. Some writers attempt to dissolve the lime salts with lactic acid preparations, largely strontium lactate; I believe that the effect of lactic acid can best be obtained by the use of soured milk or bitter milk or lacto-bacillary tablets. I have never been able to satisfy myself that lime salts had been dissolved out of the blood vessels, but the main advantage in this medication is, in my opinion the stopping of intestinal putrefaction. Where tonics are needed iron, arsenic and malt fill the bill. The nitrates and nitroglycerin should be reserved for emergencies and are rarely used by me otherwise. For continuous use, Vaquez recommends Sweet Spirits of Nitre, drams, one to two, diluted with water.

Where we have high tension, with failing cardiac compensation, I have found spartein, blue mass and vascular dilators useful.

When should we reduce blood pressure, and how much? I know of nothing that requires more careful individualizing. I believe that the key note to the situation is the cardiac condition. Where we have compensatory hypertrophy, it must be remembered that this is a physiological development to meet the increased demand and great care should be exercised. The problem is to partially reduce the pressure to within reasonable limits, but never attempt to make it approach the supposed normal. Our object should be to simply keep the pressure down so as to prevent the serious and dangerous complications and sequelae that might arise. *I am radically opposed to the prolonged use of any drug to lower blood pressure. This must be obtained by non-medicinal measures.*

These patients should return, as I said before to the physician for frequent examination and for short courses of treatment. This ideal is rarely attained, and we do not, as a rule see patients again until some symptom has arisen that demands intervention; we are thereby frequently prevented from doing the most that lies within our power and the patients' demise is thus hastened. It is so hard for us all to realize the need of the proverbial "stitch in time."

DISCUSSION.

Milton Board: I do not think that such an excellent paper as this should go undiscussed, because it shows a remarkable amount of research on this very important subject, and will go on record as a masterpiece. In my work it has been possible for me to see only the later manifestations of this trouble, and I will just take a moment's time to utter a word of caution. These

patients need rest and quiet; they must have rest and they must have quiet, but do not attempt to do too much for them. If you do, they will not get the rest and quiet that is necessary to make their last days at least comfortable.

W. F. Boggess: It was a matter of considerable personal loss for me to come here tonight, but I came principally to hear Dr. Pope's paper on arteriosclerosis and high tension, because I knew it would be classic and would give us everything worth while on the subject—nor have I been disappointed after listening to his most excellent paper.

The subject of arteriosclerosis and high tension does not receive the attention from the profession that it should. A mere tyro can tell arteriosclerosis in the radial arteries, but when it has reached the point where it can be detected in the radial arteries, it has gone beyond the possibility of benefit by therapeutic measures. You can have advanced arteriosclerosis without any evidence of it in either the radial or temporal arteries, and the presence of arteriosclerosis, whether of the splanchnic vessels or of the cerebral vessels, must be established by the most careful diagnostic measures and exclusion.

I do not see how any physician can be even approximately scientific without the frequent, almost constant, use of the sphygmomanometer. This instrument is made so cheaply to-day that any physician can have one, and he should use it as a routine measure of diagnosis, just as he uses the thermometer. One can learn much about the condition of the pulse from the sphygmomanometer.

I would like to hear Dr. Pope say, in closing the discussion, whether it is a fact that arteriosclerosis is practically unknown among strict vegetarians. I have accepted this statement as a fact, but I do not know it to be so. However, I do believe that the taking of such large quantities of proteids as Americans do is a factor in the frequency of arteriosclerosis among people of this country.

Curran Pope (closing) I want to take just a few minutes to show you Dr. Stalker's beautiful drawing of the heart. To the right, we show the normal relation of the heart to the aorta and lungs. Here we have shown a dilated heart; there an ordinary dilatation of the heart, and here an enlargement of the left ventricle, brought out by dorso-ventral illumination, that is, placing the view behind and looking at the thorax through the fluoroscope.

I also wish to show you two very simple instruments. One of them is the Riva-Rocci-Cook apparatus for testing blood pressure. It requires the arm to be stripped, a band placed around it and connected with the upright tube containing the mercury. Then, with a double bulb, commence introducing air until a pressure is obtained, and with a finger on the pulse, at the cess-

sation of its beat, we note the height of the column of mercury. This gives us what is known as the systolic pressure. The Riva-Rocci-Cook instrument registers only the systolic pressure, and with it we can only diagnose hypertension.

Here I present to you the latest and most improved instrument of Stanton. This is a rather expensive instrument, but it is considered by all specialists in this line of work to be the best instrument of the kind on the market. I have had letters from fifteen or twenty men, the majority of whom recommend this instrument. The systolic pressure is taken identically as we take it with the Riva-Rocci-Cook instrument; by means of a valve-like arrangement the air can be shut off and the column of mercury retained at its height. Then, by opening a little screw and allowing the air to enter slowly, and noting the point at which the greatest oscillation of mercury takes place, we can register the diastolic pressure. Systolic pressure minus diastolic pressure gives the pulse pressure.

The pulse pressure is of most value when our patient is beginning to get in a risky condition. It then gives us an evidence of failing compensation and is of great value to the clinician.

In regard to the question of rest in arteriosclerosis, I agree thoroughly with Dr. Board that it is an important feature, but I believe that the best time for rest is immediately following gentle exercise. It is perfectly astonishing what exercise will do for the arteriosclerotic, and it does not make any difference what form of exercise it is, whether resistive exercises in bed, in your office, or anywhere else. After you have lowered the blood pressure by means of resistive exercise, or other forms of exercise, then rest comes in as an important factor.

I am very glad indeed that Dr. Boggess brought up the question of arteriosclerosis in vegetarians. I have had opportunities for seeing quite a number of those who are following—shall I call it a “fad” of a certain organization?—and eating no meat, and I will say that one of the worst cases of arteriosclerosis I ever saw in my life was an individual who had been a vegetarian for ten or twelve years as near as I can remember. I do not believe that meat eating alone will produce hyper-tension. The laborer gets hyper-tension and arteriosclerosis as a normal result of his labor; the drinker gets arteriosclerosis, and all these conditions that produce it do so, I believe, through two essential conditions; namely, poisons entering and irritating the vascular system and over-distension. If I contract my biceps and keep it contracted for twelve months, I will have very small biceps; if I take a hose and keep it constantly under a high pressure for six months, I will have a rotten hose; in other words, as I said in my paper, the essential element for the preservation of arter-

ial activity is alternate widening and narrowing of the lumen of the blood vessels. When the blood vessel contracts the muscle relaxes, and when the muscle relaxes it feeds; if it does not relax it does not feed, and if it does not feed it is going to starve to death; that is, it is going to atrophy, and as the muscles atrophy, Nature, abhorring a vacuum, fills it with connective tissue, just as it does the spinal cord of the tabetic. If you will just think of it for a moment you will realize that this is a uniform law. When the arteries are alternately contracted and expanded, we are keeping the muscular tissue of the arteries in good condition, and that is why I say—and have said time and again, and have taught it and expect to teach it again—that the individual who uses cold water as a part of his daily hygienic process is the individual who will largely escape arterial sclerosis; for, when you take a cold bath, you drive the column of blood from the surface of the skin to the interior, with consequent contraction of all the surface arteries, capillaries and veins in the muscular structure of the skin, and when reaction takes place the arteries get exactly the exercise they need to keep them from becoming sclerotic.

CLINICAL DEPARTMENT.

SARCOMA OF THE KIDNEY.

BY G. A. HENDON, LOUISVILLE.

Name, J. M. J.; occupation, farmer; single; age, 28; male; weight, 152; nationality, U. S.

Family history, father died at 60 years, cause unknown; mother at 60 years, cause not definitely determined; two sisters and four brothers all living.

HISTORY AND MEMORANDA.

Had tubercle of ankle joint at ten years. Healed perfectly; otherwise always healthy and made full hand on farm until present trouble developed. Attention first called to existing trouble two years ago by appearance of small lump to right of umbilicus. Total absence of all other symptoms. General health excellent; no loss in weight; urine normal.

Operation at St. A. Hospital September 4, 1909. Incision in right side. Large tumor, weight six pounds, growing from mesentery, removed. Examined by Karl Weidner.

Went home October 2, 1909, and wound almost healed.

Two inches above umbilicus, 31; two inches below umbilicus, 33; over umbilicus, 32 1-4. Abdominal measurement, October 1, 1909.

Two inches above umbilicus, 31; two inches umbilicus, 32; two inches below umbilicus, 32 1-2; four inches below umbilicus, 33. Abdominal measurement, September 21, 1909.

BLOOD EXAMINATION.

September 25, 1909.

Hemoglobin	80 per cent
Erythrocytes	4,305,084
Leucocytes	39,691

STAINED SPECIMEN.

Polymuclear Neutrophiles.....	58 per cent.
Small Lymphocytes	13 per cent.
Large Lymphocytes	4 per cent.
Eosinophiles	0.5 per cent.
Myelocytes	0.2 per cent.

SPHYGMOMANOMETRIC RECORD.

Systolic	105
Diastolic	90

Signed: V. E. SIMPSON.

REPORT OF EXAMINATION OF URINE.

Color	Reddish yellow
Reaction	Acid
Spec. Grav.	1.036
Sediment	None
Albumin.....	Negative
Sugar	Negative
Bile	Negative
Blood	Negative
Pus	Negative
Epithelium	Squamous (few)
Crystals	None
Remarks:—	Few leucocytes; mucin threads.

REPORT OF TUMOR REMOVED OCTOBER 25, 1909.

The tumor removed by Dr. Hendon, and apparently a "lobe", as it were, of the tu-



Lateral view of abdomen two weeks after removal of a six-pound tumor. A much larger tumor was allowed to remain. Note the forward enlargement of the growth which is characteristic of kidney neoplasms.

mor filling the abdominal cavity, was about the size of a man's head. The consistency was

soft, but not doughy, the mass being quite resilient to touch. It was pinkish gray in color, and somewhat translucent. Deeper in



FRONT VIEW, showing operative incision two weeks after operation.

- a.—Site of gauze drain.
- b and c.—Unhealed portions of the incision.
- d.—Holes made by silk worm gut sutures.

the body of the tumor firmer masses were felt. Upon section their cut surfaces bulged forward. They were of the same color as the softer parts of the tumor, though they possessed a slight yellowish tinge. These nodules were not so translucent, and they appeared to the naked eye to be lobulated.

MICROSCOPICAL.

The microscopical examinations of sections of this tumor disclosed the following:

There was no definite capsule to the growth, there being merely a closer matting together, as it were, of the existing tumor elements upon the surface. The tumor is made up of small spindle cells, with a variable amount of intercellular substance—a fibroid stroma—though there is enough to warrant the name fibro sarcoma. The cells are arranged in bands or bundles, which run in every direction. Hence we find these bundles cut longitudinally, transversely and obliquely. The individual cells are quite easily made out.

The nuclei are fairly uniform in size and in shape. They are oval in longitudinal section and round upon cross section. They stain pretty evenly—there being no marked development of chromatin. No karyokinetic figures were seen.

Migratory connective tissue cells are found throughout the tumor, among them a great

many plasma cells. Certain areas show a considerable round cell infiltration.

The smallest blood vessels of the tumor are simply small channels through the tissue of the tumor, showing neither endothelial lining nor definite fibrous wall. Other larger vessels show a concentric arrangement of the tumor cells and fibres; while still larger vessels present a true fibrous coat and an endothelial lining.

In one section the vessel walls in the neighborhood of an extravasation of blood were infiltrated with round cells. In another section were one or two large vessels showing hyaline degeneration of their walls. Some of the sections and I believe they must have been from the firmer masses mentioned above—showed the presence of considerable fat.

Diagnosis: Fibro sarcoma of sub-peritoneal connective tissue (soft fibroma.)

C. W. WEIDNER, JR.

The points of interest in this case was the development of this tumor, slowly, gradually and painlessly. Another interesting feature is this six-pound tumor growing independently of the kidney, attached to some subperitoneal substance. Another point of interest is the presence of this enormous growth of the kidney, which was doubtless what is generally termed a hypernephroma. This was so large in size that it was deemed inadvisable to attempt its removal, the adhesions being very dense and extensive.

Another point of interest in connection with the case is the fact that there were no urinary symptoms. The absence of these symptoms in the later history of the case can be readily explained by the fact that the diseased kidney stopped contributing urine and probably all of the urine came from the good kidney, but in the earlier history we can hardly explain the absence of urinary symptoms. All observers whose works I have read have been almost unanimous in stating that in these cases blood appears in the urine at some time or other, and not only occult but macroscopical blood. Of course, if I had known the true condition, I would probably not have opened this man's abdomen. We had no idea of finding two separate and distinct growths, nor any idea that the growth of the greatest bulk would be impossible to remove.

Another point of interest (which you will observe by looking at the photographs) is laterally or forward—almost always forward. We rarely ever see an enlargement laterally and never posteriorly.

The later history of the case is negative, except that I received a letter from the man

about two weeks ago stating that he was about the same as when he left here.

DISCUSSION.

J. Garlard Sherrill: I wish to congratulate the society as well as Dr. Hendon upon the excellent manner in which he has reported this case. It is very clear and exhaustive and he has given the findings from every angle.

I wish to particularly emphasize one statement he made; that is, that enlargements of the kidneys, hydro-nephrotic tumors, and tumors of all kinds of the kidney, tend to grow forward rather than backward. There is, of course, in peri-renal suppuration, a tendency to protrude posteriorly, but all other kidney conditions, in my experience, tend to protrude forward.

Louis Frank: I rise to commend Dr. Hendon for this report. It would have been well, I think, if, while examining the blood, a differential count had been made as between the white and red blood cells. However, I do not know that this would have been of any great value. I also think the meters should have been catheterized and the result noted to make this report absolutely complete.

I would like to ask why, without finding any kidney structure at all, diagnosis was made of sarcoma of the kidney. I do not believe, in view of the subperitoneal location of these tumors, that it is an easy matter to make diagnosis of sarcoma of the kidney. I would like for Dr. Hendon to touch upon that point in closing the discussion.

I would also think that sarcoma in combination with hypernephroma, in the same kidney, would be not only an exceedingly rare, but a most interesting specimen to see. While I do not think it would be impossible to have a combination of this character, still they have a different origin, and such would certainly make a most interesting specimen and one of much value, pathologically.

In my experience with sarcoma, hypernephroma and carcinoma of the kidney, there has always been a history of blood present in the urine. In my last case of hypernephroma, a great deal of blood came from the kidney. I have had several cases of sarcoma of the kidney, one case of carcinoma and this was the second case of hypernephroma I have had the opportunity of seeing, and in all these cases blood was present in the urine in considerable quantities; in fact, blood in the urine was what induced the patient to seek relief.

I have seen one tumor arising from the subperitoneal structures posteriorly. I believe Dr. Cecil saw that case at the operation, and such tumors have been described by others as arising in this region. In the case I mention the upper margin of the tumor was in direct contact with

the lower pole of the kidney. Such tumors have been described by Senn, as desmoid sarcomas. I merely call attention to this. Possibly upon further investigation Dr. Hendon's case will prove to be of this character. These tumors may attach themselves to the kidney structure and may even appear to spring from the kidney itself.

G. H. Herndon (Closing): I desire to emphasize the fact that credit for these scientific investigations belongs to Dr. Simpson, who made the blood examination, and to Dr. Carl Weidner, Jr., who made microscopical examination of the tumor.

With reference to the pathology, I based my assertion that the growth from the kidney was a sarcoma purely upon the fact that the growth which we removed was of that character. We made no section of the tumor that remained and, therefore, no positive statement can be made in connection with it.

The pathology of hypernephroma, as we are all aware, consists of adrenal rests which gradually assume a malignant form. A few years ago hypernephroma was described as a tumor on the border line between a malignant and a benign growth. At the present time no such distinction is recognized, according to the writings of Bevin and Kimmel. I think the latter's article is most noteworthy in connection with these kidney structures, and all are unanimous in the conclusion that hypernephroma is really a malignant growth, and soon gives rise to all the symptoms of malignancy if allowed to remain in situ.

AMPUTATION AT HIP JOINT FOR SARCOMA OF THE TIBIA.

By J. GARLAND SHERRILL, LOUISVILLE.

I will present a patient, colored, aged 11, who began about four months ago, without any evidence of injury, to be troubled with a swelling just below the left knee. This grew rapidly and presented as a very large irregular mass. The greater portion of the swelling was below the patella, although a large prominence appeared over the inner condyle of the femur. Parts of the mass were quite hard, at three points showed distinct fluctuation. The boy said that he had considerable pain in the leg with occasional starting pains. There was no swelling in front of the patella. Owing to this fact and the rapid growth, a diagnosis of sarcoma was made. In order to make this diagnosis positive and to exclude tuberculosis, one of the fluctuant points was aspirated, some blood being withdrawn. The lymphatic glands in the upper part of the thigh were considerably enlarged.

On October 22, 1909, an amputation was

made at the hip joint under chloroform-ether anesthesia. Owing to the glandular enlargement in the region of Ponpart's ligament we were unable to effectively apply Wyeth's method for haemostasis. The femoral artery was tied immediately after the skin incision was made and the operation completed without great loss of blood. The lymphatic glands were carefully extirpated; the femur was disarticulated from the acetabulum and the wound closed with catgut sutures without drainage.

We now present the patient to you after sixteen days with the amputation wound completely healed, first dressing having been made this morning.

DISCUSSION.

W. C. Dugan: I had the pleasure of seeing this case at the hospital through the courtesy of Dr. Sherrill. The clinical symptoms were very conclusive, so far as sarcoma of the joint were concerned.

With reference to the amputation, from the appearance of the specimen it seems that it was necessary to go as high as he did in order to get all the diseased structure. The lower end of the femur was involved and removal of the entire bone would appear to be the only safe course to pursue.

J. Garland Sherrill (Closing): I probably did not mention it in my report, but if Dr. Hendon had examined the specimen closely, he would have found some thickening of the inner condyle of the femur. I feel convinced that a portion of the bone was involved and that was one reason why I amputated so high.

It is rarely that I make an attempt to drain such a case as this one, believing that if we have perfect technique and complete haemostasis, we will get healing without any trouble. In cases of senile gangrene I have amputated the thigh at the lower third, where there is extensive musculature, in which the same plan of treatment was followed, and I have never had any bad results if there was no infection in the wound. I think this case demonstrates that amputation of the hip joint can be accomplished without any ill effects from lack of drainage.

This case is extremely interesting because of the fact that the growth developed in four months, without any history of injury or any known cause for the growth. The case is evidently one of sarcoma, although I have not had a report on the specimen up to this time. It seems to spring from cancerous tissue at the head of the femur, with invasion through the capsule into the soft tissues beyond.

Another interesting feature was the marked fluctuation of the tumor, which made us suspicious that it might be a tubercular lesion, but the

large size of the mass, and the fact that the joint was movable without pain, and there was no swelling in the patella above the synovial sac, together with the fact that we punctured the mass and obtained nothing but blood, led us to believe that it was a sarcoma.

I have not given the patient anything since the operation. Dr. Willmoth suggested giving him the Coley serum, but my experience with this has not been as good as Dr. Coley's. However, I believe the amputation was high enough to prevent a recurrence.

RELIEF OF INTRACRANIAL PRESSURE.

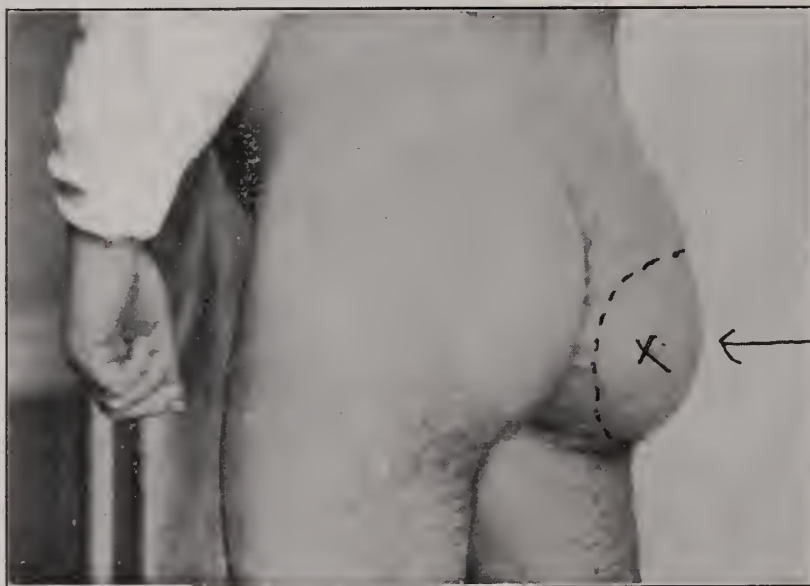
By G. A. HENDON, LOUISVILLE.

I wish to report a case which illustrates a very interesting phase of cranial surgery.

This patient, a boy about three years old, was picked up by the life-guard of a passing street-car and tossed over. The child cried very lustily and was carried into the house and a physician called. As no abrasions or lesions could be found, and the child appeared to be perfectly normal, the physician prescribed a placebo and left. He was called three hours later and found the child in a condition of universal convulsions. I saw

him in this condition which rapidly transformed into a state of coma. The pupils failed to react, which was the only focal symptom. The child was taken to St. Anthony's Hospital and upon shaving the scalp we were able to find a depression just back of the parietal eminence. The skull was trephined with a De Velbiss instrument, the opening being made 1 1/2 or 2 inches in diameter. The dura bulged into the opening. The dura was not incised, the flap was returned, and when the child was revived from the influence of the anaesthetic, he was in a perfectly normal condition and has remained so to the present time, about two months after the operation.

This case shows the value of the decompressing operation, which Drs. Cushing and Frazier have written so much about in the last few months. Dr. Frazier has written a very illuminating article bearing on the question whether or not to divide the dura, and cites cases showing that the dura has sufficient elasticity to allow it to stretch in order to take care of the pressure. This he illustrates by referring to hernia cerebri, where the hernia takes place into openings in the skull without rupturing the dura, and yet growing to very large size.



SARCOMA OF BUTTOCK.

SARCOMA OF THE LEG—REPORT OF A CASE.

By JNO. R. WATHEN, LOUISVILLE.

This specimen was removed this morning from a patient fifty years of age. He presented a large tumor of the buttocks, a photo-

graph of which before the operation I have and will pass around.

There was some question in regard to the diagnosis. The patient gave no history of trauma or injury in this neighborhood. The tumor gradually developed under the gluteus maximus muscle. This was round and

smooth to the feel and was not nodular, nor was it associated with pain. There was a question in regard to diagnosis, for the reason that the man at the same time had a fistula. Some of our rectal specialists saw the man with me in consultation, and it was thought the tumor was possibly an abscess. I operated this morning and enucleated this tumor, which I think is typical of a sarcoma. Sarcomas in this region seem to be rather frequent in recent literature. About two years ago I operated on a similar case, which was due to the patient's occupation. He was a farmer and rather broad across the hips. He had been riding a binder, cutting wheat, and the iron seat being too small for his hips, irritated the buttocks, and this irritation caused a large sarcoma to develop, which I removed. Later, however, it recurred in other parts of the body, especially the abdominal cavity, with fatal results.

I report this case more on account of the obscurity of the diagnosis than any other feature connected with it.

OPERATIVE RESULT IN UNUNITED FRACTURE.

AUGUST SCHACHNER, LOUISVILLE.

Patient Mr. L., aged 21. On the 24th of June, 1909, he slipped from a stool, breaking both bones of the right leg just below the middle. He was treated by another practitioner, first with extension and then with plaster of paris dressing. This was removed at the end of nine weeks, and on placing partially the weight of his body upon the injured side, it was noticed that there was non-union. Limb was placed in plaster dressing and skiagraphed. It was found that the approximation was not satisfactory. He was again anaesthetized and another attempt at reduction made. The skiagraph showed a less favorable approximation. Thereupon it was decided to expose the fragments, freshen the surfaces and by the use of a strip of silver about one-eighth of an inch in thickness and four silver screws, the tibia was brought into line and kept in line through the influence of the plate and four screws. There was no fever or disturbance of any kind following the use of the foreign substance. Upon examination of the skiagraph the one showing the lateral view, a small spine of bone about the middle of the fracture can be seen which locked in the opposite fragment, had interfered with the proper reduction. After this was chiseled away, the end could be brought into good alignment insuring a satisfactory leg.

TRANSPLANTATION OF TENDON FOR PARALYTIC DEFORMITY.

AUGUST SCHACHNER, LOUISVILLE.

Talipes Equino Varus Paralytic. Miss G. Flexnor. Age about 32. When ten months of age, she had an attack of anterior poliomyelitis which left her with an aggravated paralytic club foot with some disturbances of the thigh muscles. When two years of age, the tendo-Achilles was divided by a local surgeon. This improved the condition, lowering the heel, but not enough to allow the foot to be brought sufficiently down. As time passed and the subject grew older and heavier, the deformity was increased by walking in the false position. In fact she would rest herself by standing upon the outer side of the sole turned inward. Operation, September 2nd, 1909. Under an anaesthetic, the foot was manipulated to stretch the shortened ligaments and muscles. A cuneiform osteotomy was performed upon the outer side which, with a little force permitted the foot to be brought into fairly good line. The tendon Achilles was exposed and lengthened little more than one inch. The peroneus longus which was paralyzed was exposed and implanted into the live tendo-Achilles. The tibialis anticus and the extensor proprius hallucis which were both active muscles, were planted upon the outer side, making them aid the paralyzed peronei muscles. This brought the foot in good shape and it was put in plaster and kept immobile for three months. During the last six weeks, however, she was able to walk with the aid of a cane. In doing the tendo plasty, silk was used for uniting the divided tendons.

The most interesting phase in tendon transplantation for paralytic deformities is the possible changes that take place in the motor key board as the result of making five flexor muscle pull on a dead extensor tendon and vice versa, or the division of power of an active live muscle making part of it act as extensor and by transplantation the other half act as flexor.

The results in all of these cases are always better if the operation is not deferred too long. At best it should be performed within a year or a year and a half after the attack of poliomyelitis. In the time the paralyzed muscles degenerate and frequently the shape of the extremity becomes abnormal, requiring in addition to transplantation, a bony procedure. The results in these cases continue to improve for a year or more, especially if the muscles are manipulated and treated electrically to bring about a maximum restoration. It might be well to call attention to the fact

that the infectious nature of poliomyelitis has now been established by Dr. Simon Flexner and Paul A. Lewis. See Vol. 53, page 1639. Jour. Amer. Med. Assn.

DISCUSSION.

E. T. Bruce: These skiagraphs show how absolutely necessary it is to take two views of a fracture. The anterior-posterior view shows absolute union of fragments, whereas the lateral view shows displacement and non-union.

I would also call attention to the typical rounding of the fragments at the point where there is no union.

W. F. Boggess: Both of these cases are very interesting. The ununited fracture appeals more to the surgeon than the general practitioner. The case of tendon transplantation was most interesting to me. The results obtained in this case are wonderful when we consider the length of time the deformity has existed. I have seen but one case in which tendon transplantation was done, and I do not believe it is practiced very freely here. I have seen lots of cases of infantile paralysis where it occurred to me that tendon transplantation would entail little danger and would be of great benefit to the patient, and make it possible for him to have a useful limb.

I am glad Dr. Schachner mentioned that electricity should be used on the muscles after the transplantation. If that is neglected, we are not likely to get nearly so good results.

August Schachner (Closing): I have had two other cases in which tendon transplantation was practiced, making three altogether. One was Equina Valgus and the other was about the same as the one reported to-night. One case was double, and I did transplantation on both sides; and in the other, on one side.

Where we have a paralytic club-foot, there are only two things we can do—arthrodesis or tendon transplantation—to make the foot or leg at all useful. When we practice arthrodesis, we throw the muscular arrangement out altogether and we get a stiff foot, but where we do tendon transplantation, if it is not delayed too long, we get some action. It is important that the operation should be done early, before degeneration occurs. The anastomosis of nerves is by some neurologists and orthopedic surgeons preferred to the transplantation of tendons.

A properly fitting stocking is as important as an appropriate shoe in the management of cases of lunion. As suggested by Dr. Bauman, the stocking should be light, loose and be made with a separate compartment for the big toe.—Medical Standard, November.

JACKSONIAN EPILEPSY WITH REPORT OF CASES.

A. D. WILLMOTH, LOUISVILLE.

My reasons for reporting these cases are twofold; namely, first, to call your attention to the low mortality following the attempts at relief for this class of perhaps the most dreaded disease the human family is heir to; next, to show that some few cases can be relieved when of the character demanding operative work, if that work is done properly.

The first case I wish to call your attention to is the most pitiful of all these cases, and is as follows:

K., white, aged 16, family history good, father and mother both living; no nervous tendencies on either side of the house as far back as the history could be traced. The patient himself being in perfect health and in normal condition, physically and mentally, until he was eleven years of age (just five years previous to the time that I was asked to see him). While in his eleventh year, while in bathing, he dived into a creek and struck his head three inches in front of the occiput on the right side, over parietal region, and about one inch to the right of the middle line. This blow was of sufficient force to cause a scalp wound some three inches in length but, as no skull injury could be detected at the time, the physician in charge of the case sutured the scalp and kept the child quiet for a few days, then allowed him to be up and about. At the expiration of about one year, it was noticed by the parents that the child would become very nervous and was also becoming at times incorrigible. These attacks were noticed to be on the increase in frequency and severity, and his teacher called the parents' attention to the change that was going on in the boy, stating that he had changed from a quiet pupil, of well behavior, to that of the most indolent and unruly type. Within the next few weeks from the time this was noticed, he was observed, during sleep, to have a well-marked spasm. These occurred at frequent intervals and during the first year after the first symptoms were noticed, he began to run off from home and to commit various crimes. He was placed in jail for these offenses on numerous occasions until the true condition could be made plain to the authorities and his release obtained; and on one occasion, while away from home, in one of these mental states, a crime was committed, and he was hurriedly tried and sentenced to the penitentiary before the parents found his whereabouts, but, fortunately, his condition was recognized and his release had before his commitment. At the time I was called to see him he was in jail

for throwing a stone through a plate-glass window. After the acts were committed he would seem to regain his normal senses, and on one or more occasions asked why he was placed in jail, as he had done nothing to merit such treatment; and when told, would express regret and state that he knew nothing about it at the time he did it.

On examination, it was found that the attacks had increased in frequency until they were of almost weekly occurrence. The attack would always begin in the left arm, the mouth and face and last, the legs. Then the entire body would become involved in the spasmodic seizure. The child was unfit for any kind of work or study, and his appearance was such as is noticed in the feeble-minded. The local examination showed nothing but a scar about three inches long, beneath which there seemed to be a depression of the skull. His release was had and he was sent to the Infirmary to undergo an operation.

At the operating table the following observations were made:

The scalp was densely adherent to the skull over the entire area that was damaged at the time of the injury. The outer table of the skull was not depressed (as was thought from external examination); but when the trephin button was removed, the inner table was found very much depressed over an area about one and one-half inches in diameter, and to this the dura was tightly adherent. This was separated and the dura opened, and the cortex of the brain was then found to be adherent over the entire field (ascending frontal and parietal lobes). During the operation for the breaking up of these adhesions, spasms of the muscles of the arm, face and leg were frequently noticed, as each area was being dealt with. As the wound was just to the right of the middle line, and involved the longitudinal sinus, it was accidentally opened in the attempt at separation of the adhesions. This hemorrhage was controlled by gauze pressure, which was allowed to remain until the fifth day when, in an attempt to remove it a free hemorrhage was encountered, and it was again left in place for another forty-eight hours, at which time it was removed without any signs of hemorrhage and the patient's recovery from that time on was uninterrupted, he himself expressing the opinion, before the gauze was removed, that his head felt better than it had for many months. This case was operated on nearly one year ago and, up to the present time, he has had no return of the attacks.

Case II.—Mr. C., age 21, referred by Dr. Rogers of Rineyville, Ky., with the following history. His occupation was that of a farmer.

His family history was good with the exception of the father who was a highly nervous individual. This young man's condition dated back to an injury received six years ago by being struck on the head by a fence-rail. Six months later he developed a paresthesia, beginning in the tongue, spreading over the right shoulder and arm, then down the side until the entire body was involved. Local examination showed that the injury was received on the right side of the head, about three inches in front of the occiput, and about one inch from the middle line, where a small scar about one inch in length could be plainly seen. This patient was left-handed. Patient had had increased attacks until they were occurring almost daily. The attack would begin as a tremor and increase in severity until it simulated a case of chorea major. Rarely did he lose consciousness.

Operation: The head was opened on the right side, just below the site of the injury. The scalp was not adherent to the skull, but on opening the skull it was found to be very thick, and the two tables united. The dura was adherent to the brain over an area about one inch square; adhesions were not dense and easily separated. This patient was operated on last July and has had only one attack since, which occurred just a few days after he left the hospital.

Case III.—This last case is in the hospital at present and was operated on last Wednesday. The history as furnished me by Dr. Pope is as follows:

Patient male, age 12. When about three years of age, while playing in the room, he stumbled and fell over a small box and was rendered unconscious for only a short time (some several minutes). Some years later he fell from a window and was knocked unconscious for a short time, and in June last, was kicked by a horse. Within a few days after this third injury was received, he was noticed by the parents to have a slight convulsive seizure, which lasted some five or ten minutes, and when consciousness returned, expressed himself as having seen a moving picture show. Since that time he has had seven attacks, varying from two weeks to only a few days apart, each one increasing in severity. These attacks always came in the left arm and leg, affecting the arm first; and, at times when he was at play, would complain of cramping in the arm.

An examination showed that the child had in his early years some evidences of hydrocephalus. An operation was determined upon, and at the operating table the following observations were made:

The head was opened over the upper portion of the fissure of Rolando, and nothing

abnormal was noticed in the scalp or bone until the button of skull was removed. Then it was noticed, at the upper and front side of the opening, that a bluish discoloration of the dura was present, and the attention of those present in the operating room was called to this, and the probability of a cyst was spoken of. This was verified after the skull opening had been made larger and the dura incised, when a cyst the size of a small orange was found attached to the dura along the fissure of Orlando and extending up over the top of the brain, walled in by a membrane very thin and fragile, and filled with an almost clear fluid, the amount of which was about four ounces. Owing to the fragile nature of the wall, only a small portion was removed, as it was attached to the large blood vessels and the danger of a hemorrhage would have been great. The wound was closed with a drain which was allowed to remain in for forty-eight hours. Threatened convulsive seizures are noticed during the presence of the drain, but when this was removed no further trouble was noticed. At the present time the patient is doing nicely.

DISCUSSION.

W. C. Dugan: I have seen several cases of this kind and the results have been very satisfactory indeed. One patient is living three years, and another five years after operation. They did not have classical epileptic convulsions, but what is known as the psychic equivalent; that is, mental epilepsy. One of these patients was a physician, living in Kansas, who was struck on the head with a hatchet, making a wound through the scalp and through the bone. On one occasion this man was called to attend a woman in confinement. He soon lost all interest in the case, wandered all through the house, opened a dresser and examined every article in the different drawers, and finally doubled up on a sofa and went to sleep from which he could not be aroused, and it was necessary to send for another physician to attend the woman. The next morning he woke up and did not know where he was. After several experiences of this nature he became very disheartened and afraid of himself, and came back to Kentucky, his former home, and was operated on in Louisville. The scalp was closely attached to the bone. By means of a chisel we took off the old scar in the bone, and found that the inner table had been driven through the dura into the cortical substance. All cicatricial tissue was removed. I understand that he made a perfect recovery and is now practicing medicine.

The last case of this kind that I had was at the City Hospital. The patient was sent here from the asylum. It appeared that he had become violently insane at a ball, at which his very

beautiful wife had attracted a good deal of attention, and with his revolver he broke up the dance. He was taken to the asylum and was so violent that it was necessary to keep him in the strong room. He was brought to this city in handcuffs, and sent to the City Hospital where he was operated on. We shaved his head and found a depression the exact location of which I cannot recollect, but, as in the other case, we found a fracture of the inner table, which had been driven into the brain probably three-eighths of an inch. This was removed. The man went home in about ten days and has had no further trouble.

I am a great believer in operation in selected cases, but we should be very careful about making promises as to the outcome. We must bear in mind one thing; any case of epilepsy that is operated on is going to improve, and in our enthusiasm we are apt to make reports long before we are justified in doing so. As Dr. Willmoth intimated, while the results appear to be good now, they may turn out bad in the end.

A. D. Willmoth (closing): One or two points in the last case reported were of especial interest to me. One is the probable cause of this cyst which contained certainly four ounces of a perfectly clear fluid. Was it fluid that had been in the brain in early life and had become cut off and walled up, or was it the result of a hemorrhage that had taken place into the brain. I am inclined to believe that the latter view is the correct solution of the problem, as the cyst was located quite near the lateral veins that go into the longitudinal sinus.

The first case is interesting to me because of the fact that operation afforded relief from the periodical insanity. Formerly, these attacks would last for two or three days, and the boy would go away from home, commit some crime, and then in two or three days when he awoke to find himself in jail, he would want to know where he was and how he happened to be there.

As Dr. Dugan has said, it is still too early to report permanent cures in these cases. However, operation is worthy of attempt, as the mortality is low and the results in most instances are good.

OVARIAN CYST WITH TWISTED PEDICLE.

OSCAR W. DOYLE, LOUISVILLE.

Patient, Mrs. G. R.; age 45, white, married.

Family History: Father died of cirrhosis of liver; mother living and in good health; one brother and three sisters living, all in good health. Two brothers died in infancy; cause unknown. One sister died of intermittent fever. Family history negative in other respects.

Previous History: Had varicoid when ten days old; when two years old had measles;

intermittent fever when ten years of age. At age 14, as the result of a fall, received a severe cut on right side of head just posterior to the ear. Two years after this fall, noticed a small "lump" had formed about the scar of the cut. This growth developed gradually but slowly for 18 years. When 34 years of age had typhoid fever; duration three months. During the attack of typhoid the tumor behind right ear developed very rapidly, and was removed two months after recovery from typhoid fever. Claims to have been healthy until two years ago.

Personal History: Began to menstruate at age of 13. Menstruation lasted eight or nine days and was always regular. Suffered great pain during entire menstruation until birth of first child, and after that event, had no pain or difficulty of any kind. Married at age of 22. Had six children, three boys and three girls; first, at the age of 25½; second, 19 months later; third, 14 months later; fourth, 2 years later; fifth, 2 years later; sixth, 2 years later. Never had any misadventures; all labors normal. Four and a half years ago began to miss menstruations, when absent for five months; irregularity varied, but cessation was always from four to five months. Two years ago menses ceased entirely. Never had any pain or disturbances of digestion; no constipation; no vaginal discharge. Had always been fleshy. Two years ago, after cessation of menses, noticed gradual enlargement of the abdomen but attributed this to increasing weight. For about one year has noticed "cramps" in her legs, marked fatigue and marked variation in the amount of urine voided and in length of time between evacuations of bladder contents; otherwise has noticed no symptoms.

Present Condition: Did the family washing one week before present symptoms presented. Moved furniture, took up carpets, etc., preparatory to moving, for several days previous to present symptoms. Shortly after breakfast on November felt severe pain in right side near region of appendix. During the afternoon her temperature went to 100.5 F. Next morning temperature 100.75 F.; afternoon, 101; third day, morning, 101.5; afternoon, 102; fourth day, morning, 102.5 F. Diagnosis had been appendicitis. In the afternoon of the fourth day I was called and found the patient suffering marked pain in lower right quadrant; temperature 103 F. The abdomen had been blistered over the entire right side and three inches to the left of the median line, by the hot turpentine stupes which had been used. Part of this burn was of the third degree. Abdomen distended. On examining the abdomen no difficulty was experienced in mapping out the tumors, but,

because of the burn, examination was difficult in the finer details. After vaginal examination, diagnosis of abdominal tumors was made and immediate operation advised.

Operation: (By Dr. Doyle, assisted by Drs. Zimmerman, Whitlatch and Spalding).

On opening the abdomen, the cavity was found filled with a large amount of free fluid, and two large ovarian cysts, the left larger than the right. The cyst on the left side was not adherent and was removed first. The cyst on the right side was held by fine, freshly-formed adhesions over nearly its entire surface. The peritonium was extremely congested. The tip of the appendix was inflamed by contact. The cyst on the right side was found to have twisted upon its pedicle two and a half times. Both cysts and the appendix were removed.

The patient was put to bed in apparently bad condition, but, after three or four days, she began to do better and made an uneventful recovery.

MEDICAL PROGRESS.

DEPARTMENT OF OBSTETRICS.

By H. A. DAVIDSON, LOUISVILLE.

Injuries to the Puerperal Uterus, by Edwin B. Cragin, M. D., New York, in American Journal of Obstetrics.

The goal sought in every parturition is the delivery of a living, uninjured child without such lesion or infection of the parturient canal as will cause either morbidity during the puerperium or subsequent discomfort to the patient. For the purpose of discussion, injuries to the puerperal uterus will be considered under two heads, (a) Intrapartum Injuries; (b) Postpartum Injuries.

The writer will only incidentally refer to perforations of the pregnant uterus in the early months by long stiff instruments as sounds, catheters, knitting needles, umbrella wires, etc.

While the treatment of these injuries might well lead to fruitful discussion, lack of time compels the writer to pass on with the mere statement that the danger resulting from the injuries depends chiefly upon three factors:

1. The amount of infection carried to the uterus and peritoneum by the instrument.
2. The question of intestinal injury.
3. The amount of laceration and hemorrhage.

Of more interest to the conscientious obstetrician and gynecologist are the injuries which sometimes occur in the hands of men as skilled as we are, when emptying a uterus

in the early months of pregnancy in order to save the life of the would-be mother. The two injuries most common under these circumstances are (1) extensive laceration of the cervix during instrumental dilatation, and (2) deformation of the uterus by curette or ovum forceps in cases where the cervix is too rigid to allow of sufficient dilatation for the introduction of the finger and the use of it as the extracting instrument.

The uterine wall in pregnancy is softened, it may be thin and relaxed, and in these conditions, without extreme care, perforation is easy. The procedure which seems to me most likely to avoid this accident is to have the fundus of the uterus steadied by the hand of an assistant or nurse, while the operator introduces his curette or ovum forceps (the writer prefers for this purpose a fenestrated sponge holder) as carefully as he would use a delicate probe, until the fundus is reached and identified, applying what little force is used solely in the outward stroke.

Advancing now to the completion of gestation, intrapartum injuries will once more be first considered, and again lacerations of the cervix during artificial dilatation stand out predominantly.

The two conditions which are most often associated with intrapartum injury of the uterus, are eclampsia and placenta previa, with the accouchement force, which is so often employed in their treatment.

In eclampsia, emptying of the uterus has been so uniformly followed by improvement in the condition of the woman, that the dictum is generally accepted, given an eclamptic seizure, proceed to empty the uterus.

The writer believes that the dictum should be modified by the additional clause "as soon as is consistent with the condition of the cervix."

Considering the frequency of extensive lacerations of the cervix in accouchement force, when performed in the case of a long rigid cervix, the question naturally arises, is the eclamptic patient with uterus emptied, but with the extensive cervical lacerations and considerable shock better off than she would have been with uterus emptied a few hours later, after preliminary softening of the cervix with an elastic bag which has made dilatation easier and extensive laceration less probable? In general the writer believes this question can be answered in the negative, and in his own work, both in his service at the Sloane Maternity and in his private practice, he makes it a rule in cases with long rigid cervix to soften and prepare the cervix for dilatation by the introduction of an elastic bag before resorting to accouchement force. In the rare cases where the cervix is so long

and rigid that the elastic bag either cannot be introduced or does not accomplish its purpose, the so-called vaginal Cesarean section has its limited field.

There is one other condition in which accouchement force is sometimes resorted to and in which, to avoid extensive uterine injury, a word of caution may not be out of place, i. e., placenta previa. With the low implantation of the placenta and the accompanying inroads of the chorionic villi, the cervix and lower uterine segment, although perhaps rigid at the ring of the external os, are often more friable than usual and in the endeavor to speedily reach a foot and by drawing it down make the thigh and half breech serve as a uterine tampon, extensive laceration even amounting to uterine rupture, has too frequently occurred.

This accident can best be avoided by considering the possibility of its occurrence; by preliminary softening and dilatation of the cervix by the elastic bag, or gauze tamponade.

The form of uterine rupture, however, which deserves chief consideration, because in most instances avoidable, is that resulting from version in cases in which version should be considered contraindicated.

Until practitioners realize that a uterus working too long against an unsurmountable obstacle, especially if that uterus is weakened by previous cicatrices, may spontaneously rupture and until they realize that a case with membranes ruptured, liquor amnii drained away and uterus contracted upon the child is unsuited for version, uterine rupture is likely to occur.

Postpartum Injuries: The most important and most frequent postpartum uterine injuries are those associated with attempts to empty and cleanse the uterine cavity. This applies especially in cases in which the uterine contents or the uterine wall itself is more or less infected and this holds equally true whether the pregnancy has ended in abortion or in full term labor. Of these injuries perforation will be the first considered. If a clean uterus recently pregnant is easily perforated just because its wall has been softened by the pregnancy, much more easily is a uterus perforated which has been both pregnant and infected.

Hence the importance, in cleansing these septic uteri of secundines, blood clots, etc., of using the instrument which will do the least harm. This, in the opinion of the writer, is the sterilized finger.

The impression that because a woman shows a rise of temperature a few days after her delivery, her uterus should be vigorously

enretted and frequently douched has undoubtedly been the cause of many a death.

A single intrauterine douche carefully given by a competent man will occasionally, in the presence of septic material in the uterine cavity, so injure the wall of the uterus as to open a new avenue for absorption of toxins; at least as is shown by a rigor and marked rise of temperature within an hour or two following the douche. If by this procedure the uterus has been cleansed of septic material and the temperature after its rise falls to normal and remains so, the result is considered as justifying the means in spite of the penalty of a rigor and rise of temperature.

The greatest danger in the treatment of puerperal infection to-day is injury to the uterine wall destroying nature's barrier against the spread of infection to the general system and opening new portals of entry for infection which but for instrumental interference might perhaps have remained localized.

The intranuterine douche with proper indications is a procedure of greatest value. The writer would not know how to treat puerperal infection without it, but he believes that it should be used with the greatest gentleness, that it should not, as a rule, be repeated oftener than once in twenty-four hours, and that it should be continued only so long as the return flow shows that there is debris within the uterine cavity needing to be washed away. A word about the curette. It, too, is a most useful instrument, one which in the absence of sufficient cervical dilatation to admit the finger is most indispensable, but much depends upon the men behind it. It may save many patients. It has killed many.

If you can be sure that the uterus empty, leave it alone.

If in doubt, explore, but do it as gently as possible with sterile fingers as first choice and curette as second. If septic secundines are found within the uterus, remove them as carefully as possible with finger or curette, but do not repeat the use of the curette. Use the intrauterine douche only so long as the return flow shows results.

Checking the Secretion of the Lactating Breast, by Henry J. Storrs, M. D., October, 1909, Surgery, Gynecology and Obstetrics.

Every one who has experimented with the usual methods of checking the formation of milk in recently delivered women, must welcome a method by which it can be accomplished promptly and with little or no discomfort to the patient. It was brought to the notice of the author that Dr. Edwin R. Lewis, of Westerly, R. I., had for years made use of a

simple method of checking the lacteal secretion in women. It consisted in the administration of fifteen or twenty grains of acetate of potassium in water three or four times a day, associated with small doses of codia or morphia, if the breasts were painful, and no other treatment.

Dr. Lewis' suggestion was received with considerable skepticism, but it was given a trial and after a short period of probation we found that his statements were fully justified. Later a series of experiments were begun to determine exactly how the drug acted. At first it was believed that the action of the potassium acetate was in some way associated with its supposed diuretic action, and accordingly the quantity of fluids was restricted and the bowels kept freely open. In general, our observations were somewhat as follows: On the third day after delivery, or after nursing had been discontinued at a later period, but occasionally on the second and sometimes not until the fourth day or later, the breasts would become more or less engorged and occasionally present manifestations of "caking" and exceptionally some lumpiness would even extend into the axilla. This engorgement would persist for twenty-four, thirty-six and occasionally forty-eight hours, and be associated with a varying amount of pain. By the end of this period it would gradually begin to recede, while the pain disappeared immediately after the engorgement had reached its height.

In the majority of cases the pain during the period of engorgement is not sufficiently severe to call for the administration of sedatives, and in such cases can be relieved by the application of an ice-cap; although occasionally it will be necessary to give codia or morphia. When the breasts are large and very pendulous, they may be held in place by a supporting sling, which simply relieves the weight and dragging, but does not act as a pressure binder.

During the treatment, the patient should be cautioned not to handle or massage the breasts, or to attempt to empty them of milk.

In view of the very favorable results obtained, it was attempted to find an explanation for the effect of the drug. A series of comparative observations were undertaken in which the intake of fluids by the mouth as well as its output by the urine was carefully studied. In one group the patients were nursing normally, in the second they were not nursing and received potassium acetate, while in the third they were not nursing, but received merely small doses of sodium chloride as a placebo. The analysis of the results obtained in all three groups did not indicate

that the acetate of potassium possessed any marked diuretic action, and the fact that it was found that the patients receiving salt solution in its stead did equally well, indicated that the former exerted no inhibitory effect. We were, therefore, forced to the conclusion that the acetate of potassium exerted no particular influence upon the mammary secretion, and all that was necessary in order to check it was to place the breasts absolutely at rest and to leave the process to nature.

Following our preliminary observations in the fall of 1904, and the establishment of the fact that the acetate of potassium is of no therapeutic value in checking the mammary secretion, the following method has been employed as a matter of routine in all cases in the obstetrical department of the Johns-Hopkins Hospital, as well as in the private practice of Drs. Williams, Slemmons and Goldsborough, whenever it was desired to dry up the breasts.

When the child is born dead, or suckling contraindicated for any reason, the breasts are left absolutely alone for the days immediately following labor. Ordinarily they become considerably engorged about the third day, and occasionally quite painful; the patient, however, is told that the swelling and pain will promptly disappear and that no treatment is necessary. Within the course of 24 or 36 hours, the swelling begins to subside, after which the secretion gradually diminishes in amount, to disappear before the end of the week. When the breasts are large and pendulous, a loosely fitting bandage is applied to keep them from sagging, but not to exert pressure, and probably once in twenty cases a single hypodermic of morphia or codia may be necessary to relieve pain during the period of active engorgement.

We feel that this conservative method has been thoroughly tested in our service, and therefore have no hesitation in recommending its general use. Its development affords an interesting example of the value of experimental methods in clinical work and clearly shows that nature, if left alone, is frequently able to accomplish more than the pharmacopoeia, and that great caution is necessary in offering a judgment as to the value of supposed therapeutic procedures.

Postpartum Hemorrhage.—By O. Hofman, Jr., M. D., Kansas City, Mo., (*American Journal of Obstetrics.*)

In presenting this paper, I wish to speak only of that form of hemorrhage in the post-pregnant woman, occurring after separation of the placenta from its site of implantation. All other conditions, such as tearing of the circular artery, lacerations or bleeding due to

intrauterine fibroids during the puerperium are strictly avoided, inasmuch as such sources of hemorrhage are obviously of an entirely different category.

Grossly considered, the lower segment (beginning at the ring of Band to the internal os) has a muscular structure which is distinct from the body of the uterus in that it possesses loosely connected muscular layers which are easily separated, while those of the corpus are inseparably interlaced bundles which can only be dissected from one another, even in the thinnest layers, by destroying the structure.

This segment is physiologically considered more or less passive as compared with the decided contractions of the rest of the uterus, and consequently I consider it of paramount importance in the etiology of postpartum hemorrhage.

The lower portion of the uterine body, which has been designated as the relatively passive segment, is slower to contract and less firm in its contractions; and so if we have a placenta implanted near the zone of inactivity, as it were, we would expect from this comparative inertia a less speedy reparation of the placenta and a less complete constriction of the uterine sinuses after the expulsion of the secundines, and consequently, a hemorrhage.

It is in this segment, then, that danger lurks if placental implantation takes place. It is my custom in obstetrical work where a trained assistant is at hand (or if not do it myself) to have her reconstruct the amniotic sac as soon as the placenta has been expelled. At a glance it is possible to estimate the original site of placental implantation, namely, the distance of the placenta from the rent in the sac caused by the passage of the fetus. This will allow us to ascertain the location of the placental attachment to the uterine wall.

If the reconstructed sac gives evidence of placental implantation having been in the passive uterine segment, it should appeal as a signal of warning to the accoucheur, for there is danger ahead. This is obvious from what has been said above in regard to the less firm constrictions of the uterine sinuses in the passive segment.

Prophylaxis in these suspected cases consists in using the most approved methods of causing uterine contractions. An immediate hypodermic injection of aseptic ergot, the correct Crede, excitation of the mammae, and an intrauterine douche of hot normal salt solution under strictly aseptic conditions.

The treatment of an actual postpartum hemorrhage, demands speed, and every practitioner who pretends to do maternity work

should be provided with the necessary means with which to combat the emergency.

Thorough prophylactic measures on slightest suspicion of an impending hemorrhage as noted from the appearance of the reconstructed amniotic sac are essential.

DEPARTMENT OF ORTHOPÆDIC SURGERY.

JOHN B. RICHARDSON, JR.

I. *Congenital Pseudarthrosis of the Leg By An Osteoperiosteal Graft.*—M. Froelich (*Annales de Médecine et Chirurgie Infantiles*, Sept. 15th, 1910.)

Case of a girl, age six years, who had a congenital anterior-posterior curvature of both bones of the leg, following slight trauma, at age of four. Both bones were fractured at height of curvature. Hyperemia, mechanical irritation, splinting, suture were tried without promoting union. These were tried over period of one and one-half years. The fractured surfaces of tibia were re-sected and between them was placed a strip of bone-periosteum 4 cm. long and 2 cm. wide, removed from the healthy tibia. At end of two months consolidation was complete. X-Ray showed a solid callus and the child walks perfectly.

II. *A Suggestion for the Improvement of Plaster-of-Paris Technic.*—Albert H. Freiberg, Cincinnati, Ohio. (*American Journal Of Orthopedic Surgery* Nov. 1909.)

Freiberg claims there is much loss both of plaster and basic material in plaster bandages as ordinarily applied. To obviate this he advises that each bandage be wrapped in ordinary white crepe paper napkin, three or four thicknesses being used. The paper is made secure by means of a rubber band. Gently place this bandage in water and allow it to remain longer than the ordinary bandage. When the water is drained away, use as little pressure as possible. Do not squeeze each end, as the paper covering may be broken. The loss of plaster is practically nil. Dressings are applied with a much decreased weight without loss of durability.

III. *A Preliminary Report of the Use of Animal Membrane in Producing Mobility in Ankylosed Joints.*—Wm. S. Baer, Baltimore, Md. (*American Journal Orthopedic Surgery* Aug. 1909.)

The author gives a short history of efforts directed in this direction. The material used

is from the pig's bladder and is chromeized so as to remain about forty days. Prepared as cat-gut. This material is interposed between the joint surfaces. Eight cases are reported. Five knee joints, two hip-joints and one case of congenital synostosis between head of radius and ulner. In three of these cases Cargile membrane was used. In the rest the use of pig's bladder was resorted to. The five cases showed a permanency of motion varying in degree. Active and passive motion used after first dressing, which is made on the tenth day. Cases have shown post-operative rise of temperature, but suppuration has not taken place except in one case where a tuberculous discharge was set up. The author insists that these joints, if tuberculous, should not be entered until the process has been quiescent for a long period of time. The ease noted, was due to the fact that it was entered too early.

Success depends upon character of membrane used. 1st. It should be absorbable. 2nd. It should remain intact thirty to forty days. 3rd. It should be pliable enough to be adapted to the contour of the joint.

Every raw surface should be fully separated. Membrane should have body enough to prevent tearing and should be held in place by absorbable sutures.

IV. *Venous Stasis as a Therapeutic Measure.*

—Adolph Bonner, New York. (*American Journal of Surgery*, Feb. 1910.)

Among other cases are reported three tuberculous joints. One, an elbow in man 54 years of age. Pain relieved in two weeks. Under treatment for about six months, at end of this, cure effected, with full motion.

Second case in tailor, age 38 years. Right wrist-joint. Treatment for ten months—function restored—work resumed.

Third case, left-elbow in woman, age 25 years. Pain relieved entirely in four weeks. End of ten months almost complete flexion and extension, with slight impairment of pronation and supination. (Better results than usually gotten with this method.)

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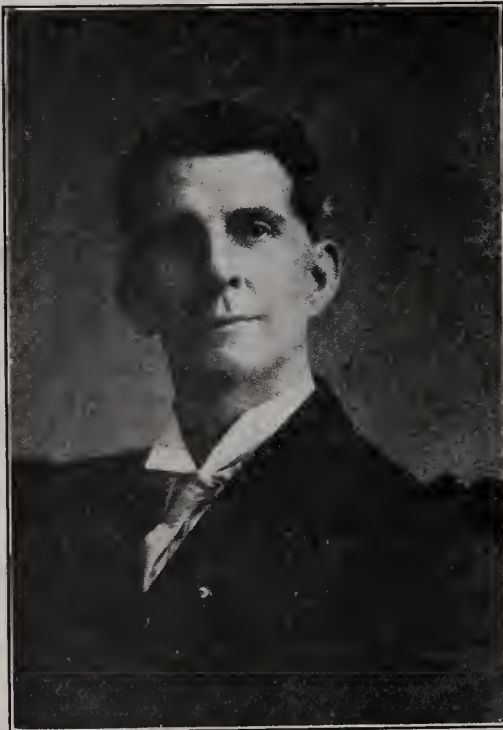
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THE PROGRAM COMPLETED.

Elsewhere in this issue will be found the new Vital Statistics and Abortion Laws, which, together with the State Board of Health Appropriation Law, which included the plan for an annual school for Health Officers and which was published last month, made up the official legislative program of the State Association for the session of the General Assembly which has just adjourned. This remarkable legislative approval of the reasonable suggestions of the organized profession

should further unite us in doing better and greater things for the people whose health and lives are, in large measure, in our hands.

In addition to the official program a number of other bills were enacted into law which met the cordial endorsement and assistance of our Legislative Committee. Among those were the Prison Reform and Intermediate Sentence Laws, the appropriation for the Home for Incurables, and the Electrocutation Law. The passage of these bills, if the Legislature had done nothing else, would mark it as a humane session as distinguished from a



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political one.

The credit for all this is due first of all to the individual members of our active county societies, who have shown by their direct and sustained interest in public health and preventive medicine that they are entitled to become the legal guardians of that great department of civic activity.

Especial personal credit is due to medical members of the Senate and House for their masterly management of the intricate details connected with the passage of any legislation and especially any carrying an appropriation. These gentlemen, by their constant attendance, their intelligent interest in all legislation affecting the public weal, and their standing as one in everything, made our victory possible. That they may be better remembered by the profession, the JOURNAL has secured photographs of all except Senator Mathers, and presents them in this issue. Their names will always be emblazoned amongst those of our noble profession who have accomplished something.

In addition to the medical members, the Council desires to express its gratitude to Lieutenant Governor Cox and Senator Linn, and to Speaker Wilson and Messrs. Pogue, of Crittenden, and Crecelius, of Pendleton county. These gentlemen took as active and intelligent interest in our sanitary measures

as if they were their own sponsors, and they are gratefully commended to the profession of the State.

In the furtherance of its great purposes the organized profession of Kentucky have vindicated their plans and methods, and to the accomplishment of its further designs upon its common enemy—disease and death—it can look forward with renewed vigor and confidence.

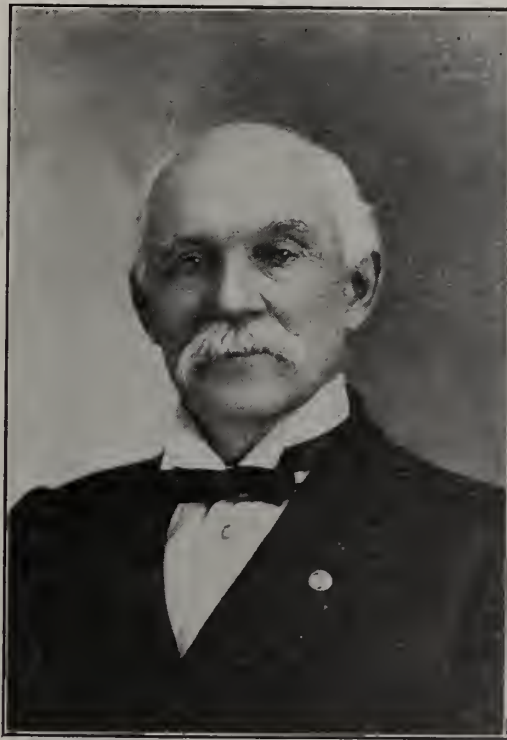
A PUBLIC HEALTH DEPARTMENT.

"I believe in *conservation*, and first of all in the conservation of human life." "I should like to see a 'Secretary of Public Health' because the importance and dignity of the work require it." "If the medical men of the United States believe in this they should say so, as it is the duty of the profession to point out the importance of the matter."

It is with the purpose of acquainting the profession and people of Kentucky with the statesmanlike views of Senator Robert L. Owen of Oklahoma on his proposed bill to establish a Department of Public Health that the above quotations from one of his letters are reproduced. Senator Owen has, of his own volition, after careful study extending over several years, following the reading of of an article on army sanitation by an



DR. B. F. FICHENOR
Senator from Daviess and McLean, Chairman Senate Committee on Public Health



DR. J. H. LACKEY
Representative from Trigg, Chairman House Committee on Public Health.

army surgeon showing the needless loss of life from preventable disease, formulated and introduced a bill, which, if enacted into law, will carry into effect the highest aims and aspirations of the leaders of our profession, will dignify preventive medicine, and will make possible such a concurrent and successful campaign of education and endeavor that disease and death will be lessened and our whole people the better secured in the possession of happiness.

To this end it is important that prompt and effective work be done. In the same mail with this issue of the JOURNAL each one of our readers will receive a copy of Senator Owen's address before the Senate. After reading it, and the bill attached to it, will you not bring the matter to the attention of every agency that can assist in its enactment. Congress is the active and intelligent reflex of the popular will. An artificial and superficial expression of popular favor for our bill can only do harm. But in Kentucky, as in many other States, where in almost every county the county society has created an atmosphere of respect for the united and altruistic purposes of the profession, as is witnessed by the passage of all the health and life saving legislation endorsed by the profession by the recently adjourned General Assembly, all that is necessary is for the profession to call the attention of every humane and civic

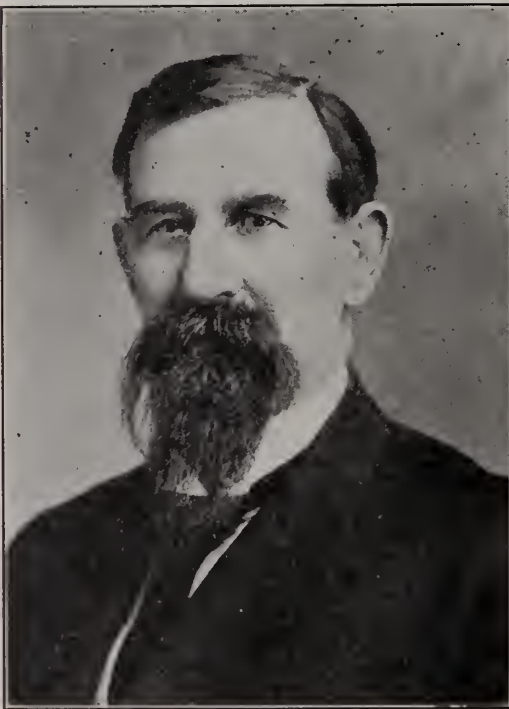
gathering to the possibility of the enactment of such legislation as is now proposed to secure for it the unanimous endorsement of every lover of the race.

To this end, let each of us bring the matter to the attention of every gathering of men and women and secure resolutions of approval. The movement has the outspoken endorsement of President Taft, as it has of ex-President Roosevelt and Mr. Bryan. The platforms of both national political parties approve it.

What can you do, Reader, to assist in securing for Congress an expression of the people of Kentucky on the creation of a Department of Public Health. Whatever it may be, be sure that Senator Robert L. Owen, Washington, D. C., receives a copy.

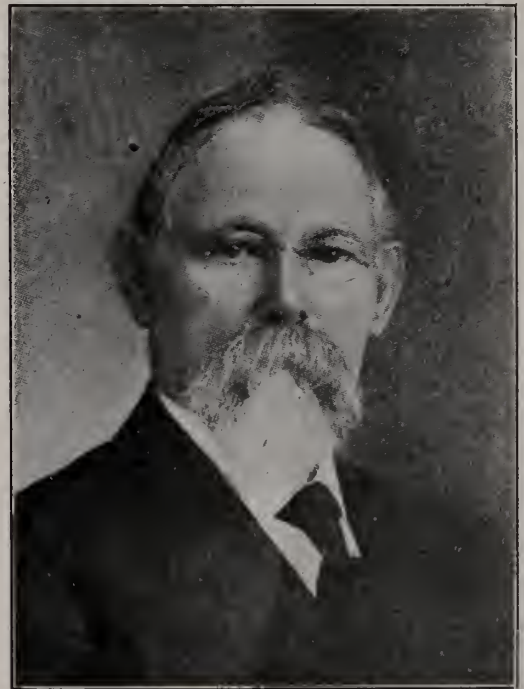
THE DIVISION OF FEES.

In this issue of the JOURNAL will be found an article of unusual interest to all our readers by Dr. Matthew D. Mann, the distinguished physician of Buffalo, N. Y., whose name has long been familiar to the profession by his valuable contributions to medical literature, also to the public in consequence of his operation in the case of the late President McKinley. Dr. Mann with careful reasoning makes in this article an exposition of the degrading effect upon the profession of the dividing of fees secretly by physicians. Every



DR. N. B. CHIPMAN

Senator from Bracken, Grant, and Pendleton.



DR. J. T. PRICHARD

Senator from Boyd, Elliott, Greenup, and Lawrence

one interested in maintaining the standard of professional character should read Dr. Mann's paper. This evil has long existed in the profession, but it is only in recent times that it has been tolerated by men of otherwise reputable position in the profession. The influences which have conduced to this result in recent times are clearly portrayed by Dr. Mann in his excellent paper. The degrading effect of this practice and the serious injury which follows are deserving careful consideration. While numerous articles have appeared from time to time in the *Journal of the A. M. A.*, and some other leading journals, this important matter has not received the attention from the medical press which its importance demands. Dr. Mann's paper was read before the Erie County Medical Society at its recent meeting in Buffalo, and it is interesting to note that his recommendations to expose such corrupt methods were adopted, and 1,000 copies of his paper were ordered printed by the Society for distribution in Erie County. In this action Erie County has set a worthy example, and doubtless other state and county societies will take similar action. When a patient goes to his family physician, or to a reputable specialist in the profession, to place the health or life of himself or his family unreservedly in their hands and cannot with equal confidence be

assured of honest and straightforward dealing as to the fee to be paid, then indeed will the high position of respect and confidence, which the medical profession has held for so long, depart from it.

L. S. McM.

ILLUMINATING CORRESPONDENCE

A LETTER

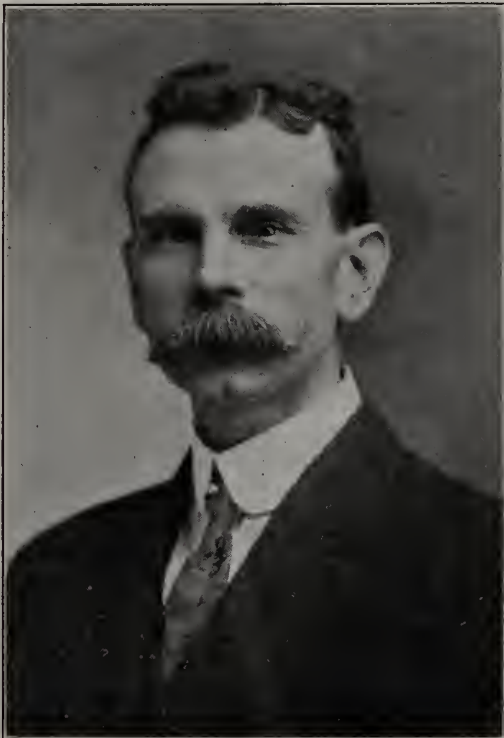
Medical Defense Branch,

Kentucky State Medical Association.

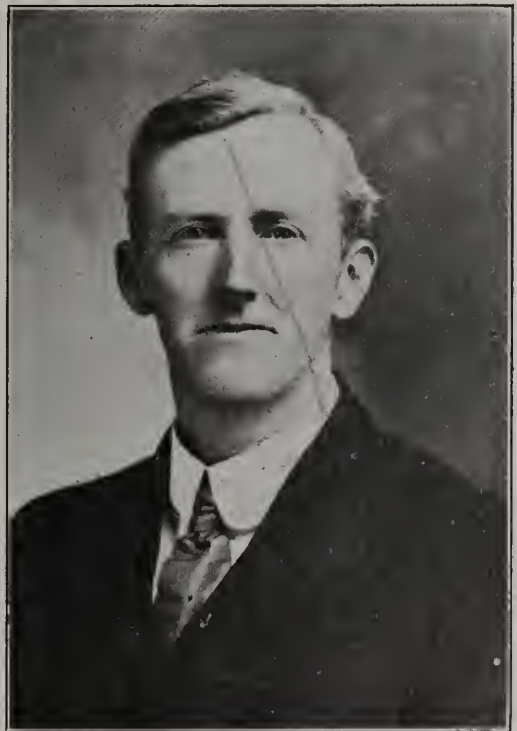
Gentlemen:-

I have been thinking for some time about joining the Medical Defense, which I understand protects the physician against blackmailing malpractice suits. There is a possibility that I may be sued for setting an old man's femur, broken in the upper third. I will be able to prove beyond any shadow of a doubt that I did my duty and was not to blame for a little shortness that exists. If I could stop this suit for a two cent stamp I would not agree to do so. Now I want to know if I can become a member by sending you my check for \$5.00, and \$1.00 for one year's dues, and get the protection in my present trouble. Please explain how I would be protected and assisted in the matter.

Yours very truly,



DR. JOHN R. CLAYPOOL
Representative from Simpson



DR. G. H. PLITT
Representative from Hancock

THE REPLY.

Dear Doctor _____

Replying to your favor of recent date, would say that I regret that joining the Medical Defense now would not give you protection for a suit, the cause of which arose before you became a member.

Should you join now, however, you would be fully protected by your membership in case you find yourself in a similar situation hereafter. The Medical Defense has retained one of the best legal firms in the State as its State advisers. These gentlemen would have charge of, and supervise the preparation of all your papers in the case in conjunction with your local attorneys, who would be selected by you after consultation with the committee, and whose fee would be paid by the Medical Defense. All court costs legally taxed against you would also be paid by the Defense. It is a pleasure to tell you that four of our members were threatened with suit last year and were vindicated without payment of a single cent. Of course, you will understand that all this is predicated upon the fact that the suit should be an unjust one, as of course no physician would expect defense if he were really guilty of malpractice.

If you join the Medical Defense, and this suit should be brought, under our contract with our attorneys, your counsel could have

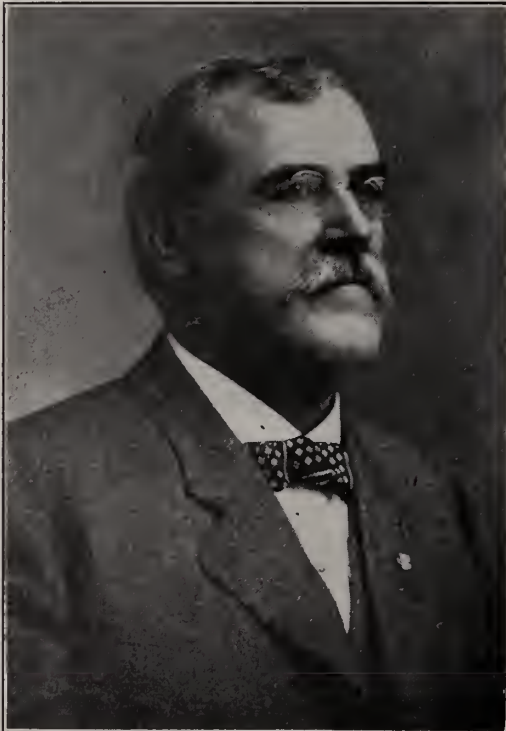
the benefit of their advice in the preparation of your answer and other papers, for a fee of ten dollars. We have already found, in our two years' experience, that this latter is worth many times what it costs. We would be very glad, outside of the Medical Defense to assist you in every way possible.

Yours very truly,

Secy.

The above letter and reply are published because they are samples of those coming to the office weekly. Most of them are written by general practitioners who are devoting their lives to their work, and who can frequently ill-afford the expense of blackmailing litigation involved in a malpractice suit. This simplest form of co-operation which insures against a needless expense, and a needless worry, is too cheap to be neglected, and no doctor practicing in Kentucky can afford, as a mere money matter, to be outside of the Medical Defense.

Of course, one must be in good standing in his County Society before he is accepted in the Defense Branch. In addition to this, he pays an initiation fee of \$5.00, and after that only \$1.00 each year for full protection against the costs arising in the suit. To those who have not already done so, the JOURNAL suggests that this organization



DR. R. H. MOSS
Representative from LaRue



DR. S. P. PARKS
Representative from Breckenridge

should be joined today.

DR. WYETH AND THE POLYCLINIC.

A recent issue of the *Journal of the American Medical Association* contained a remarkable article by one of the greatest surgeons the South has given to the nation. It will be read with pride and pleasure by Dr. Wyeth's numerous friends and admirers in Kentucky. For one man to have added transplantation of bone for the relief of deformities following fractures; a successful treatment for vascular tumors of the neck; to have demonstrated the process of permanent arterial occlusion after deligation; to have made the ligation of the external carotid practical; to have devised a bloodless amputation at the shoulder and hip; and to have been the first to treat and cure a sarcoma by streptococic and pyogenic infection, to the armamentarium of modern surgery would have been enough honor, but Dr. Wyeth has been honored by his professional associates much as he has honored them. President of the American Medical Association, the American Surgical Association, and of many professional organizations, he probably deserves most credit for the development of the post-graduate idea in the Polyclinic, which has been his special pride these many years. Thousands of doctors everywhere are doing

better work because of this great master of medicine, and it is a pleasure to contribute this tribute to a beloved comrade while he is still in the harness.

VACCINATION.

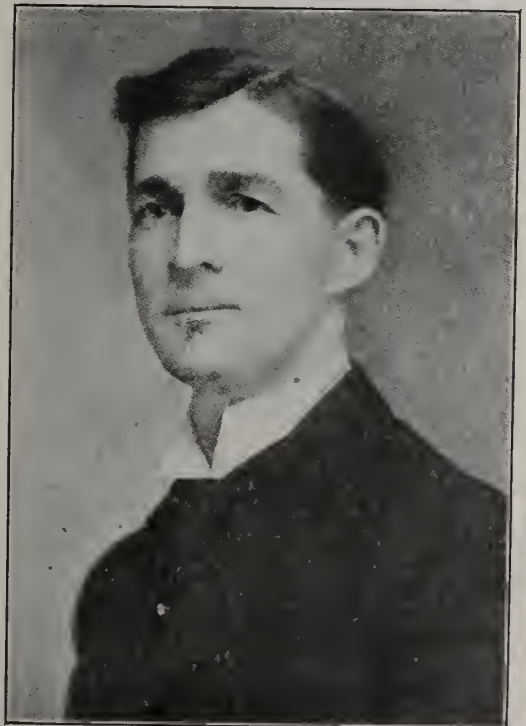
Physicians should remember that vaccination is a surgical operation, in fact, it is the only surgical operation which the majority of people ever undergo. That it is simple and easy to do is no less a reason that it should be done correctly. It is extremely rare that infection occurs after the serum has dried on the arm. Cleanse the area thoroughly with soap and water. A vigorous friction will cause a little hyperaemia which will be beneficial in taking up the vaccine. It is important to remember that the three points which are to be scarified should not be less apart than an inch. It is particularly important that the patient should return on the fifth and eighth day so the vaccination wound can be examined. Vaccination has been made too easy and treated too lightly.

THE DEFENSE OF VIVISECTION.

In the April number of the *Ladies' Home Journal*, Dr. W. W. Keen, of Philadelphia, has written a most powerful article for the benefit of the laity in defense of animal experimentation. At present when such a de-



DR. O. M. KELSAY
Representative from Green and Taylor



DR. C. F. CRECELIUS
Representative from Pendleton

cry is being raised all over the country by women's clubs and legislative bodies against this work, it is the duty of every doctor to use his influence in its defense, and to explain the real purpose and methods of such work. Dr. Keen has given several concrete examples as proof of his statements, and the following taken from his article, should be read and used as an argument for the defense. He says in part:

"In 1905 I had made all arrangements to do an operation on a Thursday morning. Among my assistants was Doctor C. On Wednesday morning he telephoned and said he was not feeling very well and that I had better engage some one to take his place. This I did, giving no special thought to the matter, supposing it was an unimportant passing illness. At ten o'clock that same night I was startled by a telephone message that if I wished to see Doctor C. alive I must come at once! In a few minutes I was there, but he was already unconscious. As I sat beside him and his weeping young wife, who soon expected to become a mother, how I longed for some means by which the hand of death could be stayed; but he died in less than thirty-six hours from the time that he was seized with cerebro-spinal meningitis.

On June 16, 1909, Charles E. Hughes, Jr., son of the Governor of New York State, and

president of his class, was graduated at Brown University. A few weeks earlier he had been suddenly seized with a violent attack of the same disease—cerebro-spinal meningitis. When some of the fluid around his spinal cord was removed by "lumbar puncture"—that is, puncture of the spinal canal in the small of the back by a hypodermic needle—there settled to the bottom of the test tube a half inch of pure pus ('matter'). No medical man familiar with this terrible disease would have thought it possible that he could recover when such a condition existed. But in 1907, midway between the death of Doctor C. and the case of young Hughes, Doctors Flexner and Jobling, of the Rockefeller Institute, had discovered by researches upon animals alone a serum against this disease. Three doses of this serum were administered also by 'lumbar puncture' to young Hughes. Within twenty-four hours after the first dose his temperature fell to normal. The pus disappeared after the second dose and he soon recovered and was able to graduate in the presence of his proud father. The tragedy in the case of Doctor C. was averted, a useful life was spared, and a family made happy." —*Ladies' Home Journal*, April, 1910.

In recent years, the most excellent work of Dr. Crile, of Cleveland; Guthrie, of St. Louis, and Carrel, of New York, along the line of experimental physiology and surgery, has done much to aid in the practical application of these principles to our every day work in the operating room. In fact it would be impossible today to carry on our modern investigations not only in surgery, but in that most practical and scientific department of medicine, "Applied Therapeutics," without the aid of animal experimentation.

In the large laboratories of our pharmaceutical firms, there are today many animals used to determine not only the effect of drugs, but also the actual strength, in this way bringing about a standardization of medicines used upon the human.

Animal experimentation has opened the door to the scientific practice of medicine and surgery, and in the future every new move along these lines will have to first be positively proven upon a number of animals before a man will have the right to attempt the same on the human. It is far better to have die from the application of some new drug or principle, one-hundred dogs, than to lose the lives of several human beings.

If vivisection is stopped by legislation or popular prejudice of the laity, medicine will be handicapped for many years to come, and all our rapid progress of recent years



DR. J. M. BLAIR
Representative from Casey and Russell

will be as aught when we consider its usefulness. It is the earnest hope of the writer that each physician will use his influence in his own community in a quiet way to dispel from the minds of the laity the horrors of vivisection and show them its value in the true light for progress.

J. R. W.

THE DIVISION OF FEES.

In regard to the article of Dr. Mann, published in this issue, the *Buffalo Medical Journal* says editorially:

"At the February meeting of the Medical Society of the County of Erie unusual interest was created, through the presentation of a paper by Dr. M. D. Mann, relating to the dividing of fees between the consulting and the attending physician or surgeon. This topic has been discussed or talked of at low breath for many years; indeed, sometimes it has been a subject of acrimonious debate between individuals. In the medical journals, too, it has now and then been touched upon, for the most part, however, in a mild or at least, in an imperfect manner, because dreading apparently to give it the publicity it deserves, or to deal with it in such fashion as the evil merits. But it has remained for Dr. Mann to handle the viper without gloves and to hold it up to view, as though intending to cast it out from a profession already bitten too severely by its poisonous fangs.

This courageous and masterful paper will be found in the original department of this number and we trust it will be read in full by physicians in all parts of the world. The proceedings of the society, too, are published in this issue, whereby it may be noted that a rising vote of approbation was given the author. To further emphasize its approval the society ordered 1,000 copies distributed to physicians in this vicinity. We feel sure this marks the beginning of a campaign that will put an end to this nefarious practice in this region at least."

SCIENTIFIC EDITORIALS.

CONJUNCTIVITIS.

The subject of conjunctivitis is one of nearly as much importance to the general practitioner as to the eye specialist, since he is quite often called upon to treat it and the management of the disease, with but few exceptions, should be well within the scope of his activities.

I say should be advisedly because I believe that the general practitioner has not fully appreciated his possibilities in this direction and a brief resume of the latest teaching on this subject may not be amiss.

This is particularly true at this time, since the development of the bacteriology of the eye has greatly enlarged our knowledge of the subject and the old classification of conjunctivitis, catarrhal, muco-purulent, purulent and membranous is slowly but surely passing away.

Axenfeld in his book on bacteriology of the eye says:—"I am firmly of the opinion that the objections and doubts, which are now shared by so many, would more rapidly disappear were surgeons to obtain for themselves the necessary experience in this branch of ophthalmology, and to form their own opinion as to its utility by a free practical trial.

Those who, during their time as assistants, have had the opportunity of frequently examining secretions, without exception firmly believe in the value of such an examination, and would never be without it in their practice.

The diagnosis involves therefore, not only a differentiation from other diseases closely related, as for instance ulcers of the cornea, but a knowledge of the particular kind of infectious agent present; not that every case of conjunctivitis can or ought to be treated on a strictly bacteriological basis, but where this is possible it is often of distinct advantage and may determine the therapeutics, as for instance in cases of *Diplo-bacillus conjunctivitis* we know that zinc salts are specific while the usual silver salts are without effect. As the successful conduct of a case is largely dependent upon an early diagnosis of the kind of infection present it is pertinent to inquire how much of an examination is required in the average case. Upon this point Axenfeld states: "As a matter of fact, the clinical utility of bacteriological examination in conjunctival cases is very marked in many respects. In many cases a simple smear preparation is more useful than a culture, because many pathogenic organisms very obvious in the former only develop badly in the latter, and are overgrown by casual bacteria of no importance."

The subject is manifestly too broad to be fully covered in this article. All that can be done is to indicate some of the new findings and to emphasize some of the newer points of treatment.

As of old gonococcus infections of the conjunctiva hold a prominent place in the literature. Hanford McKee, in *Ophthalmology*, July 1909 says: "We recognize today two distinct forms of gonorrhoeal infection of the conjunctiva: (1) Gonorrhoeal ophthalmia, due to direct transfer of virulent pus to the conjunctiva: (2) Metastatic gonorrhoeal conjunctivitis, a form which occurs in subjects

with systemic gonorrhoea, and which is due to infection carried to the eye by some internal means.

The cause and results of gonorrhoeal ophthalmia in infants or adults is only too well known. Bacteriology has placed our knowledge of its cause on a sound basis, thanks to the work of Neisser and Pirringer."

It should be noted in passing that the treatment of the two forms is radically different.

In the metastatic form there are very few gonococci present and the treatment consists chiefly in supportive measures and combating the general infection. A simple wash suffices for the conjunctiva.

In the first form the treatment that has given the writer the best results is as follows. Rest in bed. Thorough evacuation of the bowels. Cold applications in the early stages. Use warm saline to eyes frequent enough to prevent accumulation of pus.

If only one eye is affected, the other should be protected by a suitable shield and in washing the affected eye it should be done from the nasal side outward so that you do not carry the infection to the other eye in this way. Argyrol solution 25% to 50% every two hours. Applications by the doctor only, of Nitrate of Silver $\frac{1}{2}$ to 2% twice a day at first, later once a day immediately followed by argyrol two or three times in succession if required.

The reasons for this are because when nitrate of silver is applied to the everted lids a thin transparent pellicle is formed which becomes partially detached and is very disagreeable to the patient; they complaining of a foreign body in the eye. If argyrol is used immediately following, this thin scum is colored brown and can be seen and detached to the great comfort of the patient.

Then succeeds another application of argyrol which allows the medicine to act on the fresh surface and penetrate more deeply than it otherwise would.

It is extremely important that the lids be held apart and the patient, if old enough, instructed to roll the eyes around so as to get the medicine to every part of the affected membrane.

In the last five cases of adults I have used this method without a single permanent involvement of the cornea, though in one case the cornea was abraded when first seen.

Usually the flow of pus is controlled in four or five days and the cases show steady improvement. The treatment of complications does not come within the scope of this article; and if this treatment is faithfully carried out, there should be no complications to treat.

When it is considered that about one-third of all blindness is caused by this disease; that it is absolutely preventable, or if present absolutely curable, in the early stages at least, without harm to the eye, it seems that every physician, whatever his practice, should exert himself to the utmost to put an end to this frightful toll.

A great deal is being written at present on the etiology of trachoma. Halberstaller and Prowazek claim priority for the discovery of the intracellular inclusions now believed to be the cause of trachoma.

Prof. Dr. Greef, whose name is most frequently mentioned in connection with this discovery, in an article in the *Deutsche Medizinische Wochenschrift*, 1909, says: "He feels justified to assert that the morbid agents of trachoma have been found. They consist in very regular, round formations, much smaller than the smallest cocci known. They stain intensely violet or red, according to Giemsa's method, slighter with analin colors, not at all according to Gram's method. They are surrounded by a light halo. Under highest magnifying power they are not round but oval. They must not be confounded with eosinophile granulations as we see them in leucocytes. In later stages they lie together in heaps, intracellular. Gram found them in the follicles, free and intracellular, in the epithelia, and free in the viscid secretion.

Only fresh cases, which have not been treated, must be examined, as after a few days treatment with sulphate of copper the cocci cannot be found. Apparently they disappear from the surface and remain in the depth.

Gram recommends the following method for staining: The conjunctival secretion or epithelium taken with the platina tip is spread on the cover glass in a very thin layer, dried and fixed in absolute alcohol for about thirty minutes. Then the cover glass is put, for from six to nine hours, into the straining fluid, so that it swims with the contents downwards. The staining fluid consists of twelve parts Giesma-Eosin solution (2.5 ccm. 1% French Eosin solution in 500 ccm. distilled water), 3 parts Azur I (1:1000), 3 parts Azur II (0.8:1000). These must be thoroughly mixed and heated to 37 degrees C. After the staining, the cover glasses are irrigated with distilled water, dried with blotting paper and placed in cedar oil."

Regarding the treatment, the shortest and most satisfactory method is operative. In recent cases, thorough expression followed by brushing the lids with a soft tooth brush wet with 1-5000 bichlorid of mercury solution, ice cloths for reaction and argyrol 25% every three hours for about ten days.

D. H. Coover (Oph. Rec. 1909) recommends No. 0-00 sand paper cut in strips $\frac{3}{4}$ inch wide and wound over the index finger for brushing the lids, after which the eye is flushed with sterile water and ice applied for six hours. Following this a two per cent. Nitrate of Silver solution is prescribed until all secretion has disappeared.

After the reaction has subsided I prefer the method described by Dr. Prince, who makes up a 10% solution of sulphate of copper in glycerine. This he dilutes with water and gives to the patient for use. For instance, use 12 to 24 drops of the glycerine solution to an ounce or half ounce of water to be used twice a day. I have discontinued the stick copper.

In old cases and all with pannus, a wide canthotomy should be made at the time of expression, since the pathology of the disease is essentially a shrinkage of the conjunctiva. By this procedure the pressure on the cornea is moved, the palpebral slits widened and the pannus will disappear of itself in most cases the tension being relieved.

Very old case with trichiasis must have a plastic on the lids for relief.

GAYLORD C. HALL.

ORIGINAL ARTICLES.

OUR DUTY TO OURSELVES, OUR PATIENTS, AND OUR FELLOW PRACTITIONERS.*

J. E. WELLS, CYNTHIANA.

Shakespeare's injunction, "Be true to thyself and it will follow as night the day, thou canst not then be false to any man," is one of the truest of his many brilliant epigrams. If we are true and conscientious to ourselves, it necessarily follows that we will be close adherents to the Golden Rule, which has been the guiding star for countless generations, since the days of Confucius, who laid it down, and which was quoted by our Savior.

In no walk of life is there such vital need of conscientiousness and thorough preparation as to the followers of Esculapius. The first and foremost duty of a physician, is to thoroughly prepare himself for the vocation he has chosen, for he alone of all mortals has the power of life and death in his hands, and he should realize that he can never know enough.

It is of the greatest importance to have a thorough groundwork of a literary education, this is getting to be the more necessary every day, college bred men grow more in de-

mand. Next to a good literary education, a thorough medical training is necessary. We should not let our diploma be our last effort to gain knowledge, in reality we have just *begun*. Keep up with the procession, by reading carefully the cream of the Medical Journals, as well as to keep your library replete with the latest standard text books. Besides keeping in touch with medical literature, it is most essential to become an active member of your County, State and National Medical Associations, thereby imparting and receiving knowledge, interchanging ideas and imbuing much that is useful and practical. This is one of the best known methods of improvement, and it effectually prevents one from falling into a narrow rut.

One of the most important lessons to be learned by the profession at large, is to look after the business side. It is to one's credit to be on the alert to obtain that which he has earned through much trial and tribulation. "The laborer is worthy of his hire," and this applies to all who "labor by the sweat of their brow." A physician's calling is undoubtedly one of mercy, but not necessarily one of charity. The families of a physician have to live as well as those of any other man. It is a notorious fact that doctors and ministers, are as a rule, poor business men and are generally regarded as an "easy mark." People seem to think they can live on air, and have no need for ready cash, though they expect them to meet *their* obligations as quickly as any other man, and also to contribute money for all charitable purposes and for public enterprises whenever they demand it. It is to our advantage to teach the people that it is as important to pay the doctor, as it is the "butcher, the baker and the candlestick maker." In fact, it is more important, for when in distress and trouble it is on *us* they lean for strength and support. Doctors do more for the advancement of mankind, than all the statesmen combined, more charity than a whole host of philanthropists and have more opportunities to get close to their patients hearts and lives and influence them for good than many ministers.

When folks fail to pay their grocer, or tailor, or refuse to meet their obligations at the bank, this fact becomes speedily known, and their requests, like Oliver Twist's, for "more," are speedily refused, as they should be. It is the habit of many persons to "work" one doctor after another, to avoid paying for medical attendance. After the various accidents and scrimmages, they call for the doctor the first thing, but when the time for reckoning comes, the lawyer gets a fat fee, while the doctor is "left with the bag to hold." Society people will run up large

*Read before the Muldraugh Hill Medical Society, April 14, 1910.

bills, and ignore their receipt, at the same time giving function after function, and bedecking themselves with jewels and fine clothes, never giving a thought to the poor doctor, who was probably dragged out of a warm bed, to attend to their ills.

All these things would cease to be, if the physicians would band together and refuse to go again, when the money is not forthcoming. This leniency of allowing things to drift, is not to our credit. A careless business man is never in very good repute with his fellow men, no matter how skillful he is along other lines.

Our duty as physicians involves the practice of every virtue and the shunning of every vice. But there are certain virtues and graces of pre-eminent necessity to the physician, and certain vices and minor faults against which we must be particularly guarded. And *first* is the truth. Lying is the great temptation to which all physicians are exposed. Clergymen are expected to tell such portions of the truth as they think will be useful. Their danger is in suppression, rather than in direct falsehood. Lawyers stand in professional and technical relations to veracity. Thus a clerk swears a witness to tell the truth, the whole truth, and nothing but the truth—the lawyer expected to get out of the witness not exactly the truth—but a portion of it, which suits him. But this is an understood thing, and we are not expected to believe a lawyer outside of the court room.

The physician, however, is not provided with a license to say a thing which is not. He is expected to know the truth, and to be ready to tell it. Yet nothing is harder for him than to always do it. Whenever he makes an unnecessary visit he tells a lie, whenever he writes an unnecessary prescription, he tells a lie. All false pretenses whatever, whether acted or spoken, all superficial diagnoses, whether the practitioner does not know that he knows, or still worse, knows that he does not know; all unwarranted prognoses, and promises of cure, all claiming for treatment what may have been owing to Nature only, all shallow excuses for the results of bad practice, are lies and nothing less. Remember, a physician's *first* duty, is to his *patient*, his second only to himself.

A lie is a deadly poison. We have no right to give it in large or small doses, for any selfish purpose connected with the profession any more for other selfish objects. But as we administer arsenic or strychnia in certain cases, without blame, nay, as it may be to give them to our patients are there not also cases in which the moral poison of deceit is rightly employed for the patient's welfare? In extreme cases, the physician may deal with

the truth, as he does with food, for the sake of the patient's welfare or existence.

He may partly or wholly withhold it, under certain circumstances, and medicate it with the deadly poison of honest fraud. He must often look the cheerfulness he cannot *feel* and encourage the hope he cannot *confidently* share. He must sometimes conceal and sometimes disguise the truth, which would be perilous or fatal to speak out. All through life one has to use judgment and good hard sense, and so a physician is frequently placed in a position where nothing but the dictates of his own judgment can guide him.

Besides the telling of the truth, the next rule I would proclaim with no hesitating accents is, *respect our profession*. If we do not feel as we cross the millionaire's threshold that our art is nobler than his palace, the footman who lets us in, is our fitting companion, not his master. If we respect our profession, we will not "chatter" about our patients, thinking to guild ourselves by rubbing against wealth and splendor. Be a little proud—it will not hurt us, and remember, that it is how the profession bears *itself*, whether its members are peers of the highest or the barely tolerated operatives of society, like the Egyptian dissectors hired to use their ignoble implements, and chased from the houses, where they had exercised their craft, followed by curses and volleys of stones.

Besides the many duties to oneself, there are also equally numerous ones to be performed to the patients. In the first place, be prompt, accurate and attentive, though not pronouncedly so. Be honest with them, and tell them the necessary truth, except in such instances where it would work to the patient's detriment. Exhaust all your resources to do them the utmost good, regardless of their social or financial standing, at the same time letting them know that the practice of medicine is *your* means of earning a livelihood, and that you are giving them fully and freely the advantages of your years of drudgery and study, and that it is worth something to both them and you. When we have come to the "end of our tether" we should never hesitate to call a consultation. Our patients will admire us all the more for being honest with them. The consultant, however, should be careful to protect the physician in charge, and never by a word or the slightest movement or facial expression betray that he does not approve of the course pursued by the one in authority. It is time enough to make this known when after a proper discussion of the case, it is found that an agreement cannot be arrived at.

We must be temperate that we may be mas-

ters of our own faculties at all times, we must be pure, so that we may pass the sacred barriers of the family circle open to us, as to none other of the outside world, without polluting its sanctuary by our presence, it is, I think, needless for me to urge such a course. Charity is the eminent virtue of the medical profession. Show me the garret or cellar which its messengers do not penetrate. Tell me of the pestilence which its heroes have not braved in their errands of mercy, name to me the young practitioner who is not ready to be the servant of servants in the cause of humanity, or the old one whose council is not ready for him in all his perplexities, and I will expatiate upon the claims of a virtue, which I am content to leave you to learn from those gone before you, and whose foot-prints you will find in every haunt of stricken humanity.

But there are lesser virtues with their corresponding failings, which will bear a few words of counsel. *First*, then, we should be of honorable reserve with reference to the history of our patients, which should belong to every practitioner. No high-minded or even well-bred man can ever forget it: yet men who might be *supposed* to be high-minded and well-bred have been known to habitually violate its sacred law. As a breach of trust, it demands the sternest sentence that can be pronounced on the offence of a faithless agent. As a mark of vanity and egotism, there is nothing more characteristic than to be always babbling about ones patients and nothing brings a man an ampler return of contempt among his fellows.

We should always endeavor to make our visits to a patient at the same regular hour when he expects us. We will save him a great deal of fretting and occasionally prevent him from sending for our rival when he has grown tired of waiting for us.

Our conduct in the sick room in conversation with our patients or his friends, is a matter of very great importance to *their* welfare and *our* reputation. Say not too much, speak it gently and guard it cautiously. Always remember, that words used before our patients or to their friends are like coppers given to children, we think little of them, but the *children* count them over and over, make all conceivable and imaginary uses of them, and very likely change them into something to make them sick, and causes us to be sent for to clean out the stomach that we have so unwittingly filled with trash; a task not so easy as it was to give them the means of filling it.

The forming of a diagnosis, the utterance of a prognosis, and the laying down of a form of treatment, all demand certain particular

cautions. We must *learn* by our *mistakes*. Napoleon, it is said, never made the *same* mistake *twice*, we can be Napoleon's equal in that respect at least.

We should beware how we take away hope from any human being. Nothing is clearer than that the merciful Creator intends to blind most people as they pass down into the dark valley. Without very good reasons, temporal or spiritual, we should not interfere with his kind of arrangements. It is the height of cruelty and the extreme of impertinence to tell your patient that he must die, except that you are sure that he wishes to know it, or there is some particular cause for his knowing. God leads us by the hand to the edge of the precipice in happy unconsciousness, and why should we open our eyes to what He so wisely conceals?

Another important duty of the physician to his patients and the public in general, is to educate them in the elements of physiology and sanitary science to a sufficient extent to enable them to appreciate the necessity of making and enforcing such regulations as are known to promote health in general, and arrest the progress of endemic and epidemic diseases.

"It is a trite theory that knowledge penetrates society from above; that starting from the limited mountain top occupied by the educated few, it slowly percolates through the subjacent strata, and after a while perhaps, in a greatly diluted state, it reaches the minds of the many who form the lowest stratum. I admit the truth of the illustration in so far as it expresses the direction which knowledge takes, but I deny the inference that the latter descends by its own weight; that those who possess it have only to open their mouths and their words shall, by their specific gravity, filter through all the intervening grades, and refresh the thirsty souls at the bottom. This is certainly a very comfortable doctrine for those who live nearest the heavens, but unfortunately it is not true. "Knowledge 'abides alone,' unless it is forced into the ranks below, and it is the bounden duty of those who possess it to make provision for its diffusion." "No man liveth unto himself alone," and the author of all truth has pronounced dire maledictions against those who hold the key of knowledge and refuse to open the door to those without. Sanitary science is no exception to the rule. It must be taught in the family, in the infant school, in the workshop, in the factory, in the church; it must be taught in the university, in the forum, in the legislative halls, in the country, in the city, in fact, taught every where. Health and long life are possible to multitudes of those who sicken and die before

they attain the age of maturity. By whom are the people to be educated in the laws of health? I answer, that for the present at least, the educators are to be furnished chiefly by the medical profession. Indeed, every physician should be a worshipper at the shrine of the rosy cheeked Hygeia, the daughter of the old God Esculapius, and should exert his utmost influence to spread abroad the knowledge of the elementary truths which underlie the whole system of sanitation. By so doing, we will prepare the way for the enactment and education of sanitary laws.

One of the chief duties of our fellow practitioners, is to adhere strictly to the letter of the law in the principles of medical ethics. We should never undercharge for our services with a view of obtaining business, or in any other odious sense. A community never values a physician higher than he values himself. The fees determined upon in the community in which one practices should be strictly followed. Cutting fees in order to get practice should be frowned upon by all honest men. No upright physician should undercharge his neighbor, or the customary fees in the community. This not only works to the detriment of the one who practices it, but to the profession at large as well. A physician's services are worth no more than the estimate he places upon them, as a rule the man who charges *half price*, is getting *much more* than he deserves, it is an evidence that he does not consider his ability worth very much. The practice of parading our popularity or ability to either other physicians, their patients or our friends, is as unethical and as out of place as to advertise through the press, besides it is not treating our fellow practitioners with the courtesy due him.

When we are called to see another physician's patient, or one that has been previously treated by another physician, we should not make scornful remarks on the remedies he has prescribed, or show by the smallest act on our part, that the diagnosis is faulty or actually wrong, or that we do not approve of his plan of treatment. No physician, however, who has the least regard for honor or principle will persist in an error of which he is aware; but unless some real necessity demands it, no material change should be proposed or allowed *at that time*. If we do not believe the diagnosis is correct or approve of the treatment, we can manage to make the necessary change so as not to cast any reflections on the one in charge of the case.

We should not disparage the previous attendant by expressing a wish that we had been called sooner, or criticise his conduct or his remedies; it is mean and cowardly to do

either. Our duty in such cases is with the *present* and the *future*, not the past. We should not allude to the physician superseded, unless we speak clearly to his advantage. Unfairness will seldom go undetected or unpunished, for we are taught that "Whatever a man soweth, that shall he also reap." Any one upon whom we encroach in an unprofessional manner will feel himself justified in retaliating with our own weapons, and we will reap a crop similar to the seed which we have sown. Remember, we cannot *build up ourselves* by *tearing down* others, "knock and you will be knocked." The Good Book says: "They that are merciful, shall obtain mercy"; we are all prone to mistakes, "to err is human," and it is not possible for two people, however intelligent and well posted, to see alike. We have *our* ideas and opinions about things, can we not grant the same privilege to others?

If we respect our profession as we should, we will respect all honorable practitioners, in their honorable calling. And respecting *them* and *ourselves*, we will beware of all degrading jealousies and despise every unfair art, which may promise to raise us at the expense of our rival. How hard it is not to undervalue those who are hotly competing with us for the prize of life! In every great crisis, our instincts are apt to suddenly rise upon us and in these exciting struggles, we are liable to be seized by that passion which lead the fiery race-horse, in the height of a desperate contest, to catch his rival with his teeth as he passed, to hold him back from the goal, by which a few strides would have borne him. But for the condemnation of this sin, I must turn you over to the tenth commandment, which in its last general clause contains this special rule for the physicians—"Thou shalt not covet thy neighbor's patients."

We can hardly cultivate any sturdy root of virtue, but it will bear the leaves and flowers of some natural grace or other. If we are always fair to our professional brethren, we will almost of necessity encourage those habits of courtesy in our intercourse with them, which are the breathing organs and blossoms of virtue from which they spring.

The "Revised Principles of Medical Ethics," should be our rule and guide in governing our conduct toward our fellow practitioners, or patients, and public in general. We should read, study and preserve it for reference, that we may be familiar with its requirements. Nothing tends more to create and foster that feeling of brotherly love among the members of the profession and to command the respect of the laity than a strict adherence to its teachings.

Had the American Medical Association

done nothing else than originate and adopt these beautiful precepts, it would have rendered a service entitling it to everlasting gratitude and made for itself an imperishable name in the annals of our country.

As *true physicians*, we unquestionably owe to it our sacred allegiance and should remember at all times, "That every action of ours, every phase of our conduct, every word we utter, every nod of our head, tremble of our tongue, quiver of the lip, wink of the eye, or shrug of the shoulder, will be observed and carefully weighed for, or against us. We should therefore, strive to make our characters and our method as faultless as possible and let not the slightest word escape us unsuitable to the occasion. We must also keep our lamps trimmed and burning and our oil ready, observe punctuality and system in attending all those who place themselves under our care, and strive to do the greatest good for each and every one who trusts to our skill for relief, that we may fill *every* bosom with kindness towards us, and *every* mouth with praise so that we may be truly called a good Physician."

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SOME OBSERVATIONS ON THE TOXEMIA OF PREGNANCY.*

By E. L. GODBY, CAMPBELLSVILLE.

When I was a medical student, our teacher told us when we took up the practice of obstetrics, to be sure to include in our equipment obstetrical forceps, to get them from a reliable dealer, thereby having instruments we could thoroughly depend upon, sterilize them and wrap them in an aseptic package, and place that package where we could get our hands on them at the first moment. And when our call for obstetrics came to hurry to it and leave the forceps at the office. In like manner we were taught that labor was a physiological process, to let nature take its course, and although four-fifths of my textbook was devoted to abnormalities, I was lulled and soothed by the easy time ahead of me in this department of my practice.

But in my first ten cases I had three irregular presentations—one case of eclampsia; one case of detached placenta; and one case of puerperal infection. The last named case, however, was not delivered by me and I did not see it until after five days after the baby was born. So I began to think there were almost as many breakers as there was smooth

sailing on the obstetrical sea. I report these cases, not because I doubt if a single doctor in my presence can report such a series of misfortune in ten consecutive cases, but to mention the fact that in only one instance was I engaged to wait upon the patient before hand.

All these complications, with possibly one exception, were preventable, and it is here I want to class myself as a bromide and repeat that frazzled old expression, that in spite of the small remuneration we cannot devote too much time to the pregnant woman.

From the etiological factors thus far understood as the production of eclampsia, it would seem it is a preventable disease. However experience does not bear this out. Still a conscientious watchfulness of the pregnant woman will reduce the danger of eclampsia to almost *nil*, and will enable her to spend that period of danger and discomfort in comparative ease.

I wish to say a few words on the management of the toxemia of pregnancy, for if this complication of pregnancy is properly treated (and there is practically never a case that it at some time does not make its appearance in a more or less severe form,) we will not only be rewarded by a safe and less difficult delivery, but will have the thanks of a grateful patient as well. In country practice it is impossible to see the patient even weekly, nor would the majority of more or less normally pregnant women appreciate a weekly quiz even in the latter six weeks of pregnancy. But we can ask the patient to report the first symptoms of headache, nausea, depressed urinary secretion, vertigo, swelling of limbs, palpitation, etc. This, on account of their own bodily discomfort, they are usually willing to do. But there is one thing that we should insist upon and that is a monthly examination of urine from the fourth to the eighth month and a bi-weekly examination during the eighth and ninth months. Of course the urine should be examined oftener if indications require it, but I am afraid even the number of times above suggested is not carried out by the average busy country practitioner who has no assistant. And in making an examination of the urine, I believe we should pay less attention to albuminous urine and more attention to the excretion of urea. The irritating fumes of bromine in the commonly used Doremus test, which is the best for the general practitioner who has to do his own urinalyses are not very pleasant; still to neglect this important test, in my opinion the examiner almost has only his trouble for his pains. I can't say it is a general rule, but for my own part I have never seen a case that presented any definite symptoms of the toxemia of pregnancy whose urine did not show an excretion

*Read before the Taylor County Medical Society.

of less than 1% urea.

Not long ago I saw a delicate young woman in the eighth month of pregnancy. She complained of intense headache and backache, dimness of vision, palpitation of the heart, and suffered extremely with nervousness and insomnia. She said she was slightly constipated but thought her kidneys were acting about as usual. An examination of urine revealed a sp. gr. of 1018, no sugar, no albumen, the amount of urea excreted, .003%. It was only by rest, appropriate diet and most vigorous elimination that after two days I had the pleasure of seeing the urea rise to more nearly normal and with it the headache, nervousness and other symptoms of toxemia disappear. Yet the kind old lady was on hand who doubtless thinking I was too young to know, volunteered the information that all women in my patient's condition was bound to suffer as my patient was suffering, she knew, for she had had children herself. I believe if we make it a rule to make a test of urea every time we examine the patient's urine, we can secure for her the minimum amount of discomfort during this trying period.

Probably another thing that gives the patient more alarm and is more likely to cause them to consult a physician is swelling of the feet and hands. However, this is usually one of the least significant of the symptoms of toxemia, and may simply be caused by the pressure of the fetus. Although the potassium salts are irritating to the renal epithelium, and should not be unguardedly used as a diuretic in pregnant women, small doses of the acetate of potash will generally relieve this condition without any apparent harm.

The best treatment of the toxemia of pregnancy is, of course, prophylactic. The pregnant woman should be cautioned to keep the emunctories open, and told the necessity of doing so. We seldom see a woman so ignorant who cannot understand why these safeguards against toxemia should not be carried out, and by knowing the reason we thereby gain her co-operation and confidence. Some form of liquid Cascara is one of the best laxatives at our command, with an occasional dose of calomel and castor oil, a much abused remedy in these conditions. Plenty of water and milk are diuretics par excellence in the prophylactic treatment.

When an attack of toxemia threatens a two to five grain dose of calomel, followed by a saline, preferably magnesium sulphate, will usually give relief. In patients who strongly object to the dose of calomel, if the symptoms are not too severe, frequently repeated doses of effervescent citrate of magnesia will usually be sufficient.

EARLY DIAGNOSIS OF TUBERCULOSIS.*

J. H. CHRISMAN, OWENTON.

Diagnosis is the most important consideration pertaining to the general subject of Pulmonary Tuberculosis. It is scarcely conceivable, that any uncertainty should exist in moderately advanced cases, for the history, subjective symptoms, and physical signs present. A clinical picture so typical as almost to preclude the possibility of error. The incipient cases present the only reasonable difficulties in the way of accurate diagnosis, and it is this class that the early diagnosis is of the most importance. The cough, which is described at length in most of our text-books, is often the first subjective manifestation of tuberculosis. It is more frequently present than any other initial symptom, and at once attracts attention to some involvement of the respiratory tract. It often serves a useful purpose in arousing the early apprehension of patient and friends, and is of signal importance in exciting the suspicion of the physician as to a possible tuberculous invasion. But this cough is of uncertain value as it may be caused by catarrhal bronchitis or laryngitis, an elongated uvula, or a follicular pharyngitis. While frequently dependent upon other conditions than tuberculosis, its persistence in the absence of readily explained cause, particularly in combination with loss of weight or fever, should be construed as strongly indicative of tuberculous infection. Loss of weight has long been regarded as one of the cardinal manifestations of consumption, but its diagnostic significance in incipient cases have been exaggerated to a great extent. In very early cases the impairment of nutrition is but trifling or absent altogether. As a general rule, patients exhibiting decided emaciation have been afflicted for a long time, and manifest other evidences of tuberculosis. One of the later tests for tuberculosis is the tuberculin test. When the diagnosis is sufficiently clear by other means the tuberculin test presents no additional feature of value. We have several different products used in making these tests, which I will not now undertake to give in this paper. In making these tests the patient's temperature is observed for a few days to ascertain if temperature is below 99. Patients whose temperature is above 99 are unsuited for the diagnostic application of tuberculin, and ought not under any circumstances to be subjected to the test. If a patient is found suitable he receives an injection under the skin of the back, in the fore-

*Read before Owen County Medical Society.

noon. If there is no rise of temperature at all, on the second day give a dose doubly as large as the first. But if there be a slight elevation of temperature, $\frac{1}{4}$ degree for instance, the dose is not raised, but repeated as soon as temperature has gone down to normal. It very often happens that, though the same dose is given, the second reaction is stronger than the first. This test is said to be an infallible sign of tuberculosis. I will not attempt to give you the other methods of using tuberculin as tests for tuberculosis for fear of tiring you with the length of my paper, thinking perhaps the society may have a similar topic on program at some future meeting.

DIAGNOSIS OF GALL STONE DISEASE*

J. LOUIS RANSOHOFF, CINCINNATI, O.

The most important single feature in the discussion of gall stones and disease of the biliary tract is the early and accurate diagnosis, without which any efforts at comprehensive treatment are futile. In a disease, whose manifestations are so protean varying from suggestive dyspepsia to the well-defined gall stone colic, there is no point which should be overlooked.

The age of the patient must always be taken into consideration. In childhood and adolescence gall stones are of so rare occurrence as to make the diagnosis extremely problematical. Of 239 cases observed by Korte, not a single case occurred within the first two decades of life. Notwithstanding these convincing data, I have seen within the past year, a child of ten operated on for gall stones with of course a negative result. Gall stones are most frequent after the fortieth year.

The most important as well as the most variable signs of gall stone disease are pain and tenderness. That this variability is true, is amply borne out by the countless cases of gall stones discovered post mortem, which have been comparatively latent during life, or have not caused symptoms sufficiently severe to warrant seeking surgical intervention. Gall stones resting quietly in a comparatively healthy gall bladder cause practically no symptoms. They are, however, always a source of potential trouble. The stone-containing gall bladder is never entirely normal, the gall stones being invariably formed by a mild infectious cholecystitis, the so-called stone-forming catarrh. This, of course, leaves the gall bladder in a pathological condition. A slight added infection or

an impaction of a stone in one of the ducts means the onset of the so called gall stone attack.

Disregarding for a moment typical gall stone colic, the pain is of two distinct types. In the ordinary gall stone case the pain is not sharp, rather a dull continuous ache, most marked in the epigastrium or a vague sense of heaviness or discomfort after eating. These are the cases, which so frequently are diagnosed as dyspepsia. The patient is under nourished, often a confirmed invalid. He is liable to have increase of pain and occasional nausea after eating. Certain foods only can be taken with impunity. Mayo Robson calls attention to the attacks of biliousness accompanied by flatulence and a tendency to headache. These are the cases which test the diagnostic acumen of the physician. The one and only characteristic symptom is the tenderness on deep pressure over the gall bladder. The most reliable means of eliciting this gall bladder tenderness has been demonstrated by Naunyn; the fingers are hooked deep under the right costal arch at the outer border of the right rectus and the patient asked to take a deep inspiration. By this manœuvre the tender and distended gall bladder is forced against the examining finger, pain elicited and the respiration inhibited. This sudden inhibition of inspiration is very characteristic. While these cases show no jaundice, there is not infrequently a subicteric tinge, which is extremely suggestive.

Case I. Male, aged 44. Complaints of indigestion. Has suffered for the past ten years with bilious attacks. Has uneasy feeling in epigastrium after eating. Gives no history of gall stone colic or jaundice. Examination shows a poorly nourished man of a sickly sallow color. Temperature, pulse and respiration normal. Urinalysis normal.

On examination no tenderness over appendix region or lower abdomen. Examination of stomach contents normal. There is a distinct tenderness on deep pressure over the gall bladder with inhibition of inspiration. No tenderness or enlargement of the liver.

Diagnosis: Stones in the gall bladder.

Operation revealed a comparatively healthy gall bladder free from adhesions. On opening the gall bladder it was found filled with bile and containing about 400 faceted stones. No stones in the common or cystic ducts. The operation was completed by doing an ordinary cholecystostomy. Recovery uninterrupted.

The most characteristic pain is that which occurs in acute severe infections of the gall bladder, resulting in inflammation of the peritoneal coat and the formation of adhesions,

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or in more severe cases of abscesses around the gall bladder. In this class of cases, the onset is usually attended by nausea and vomiting with a sharp elevation of temperature. The pain is often excruciating with sharp colicky exacerbations. The pain is referred to the right shoulder and the base of the neck. On examination the gall bladder region is exquisitely sensitive and the upper part of the right rectus muscle is rigidly contracted. Owing to this rigidity, it is impossible to map out any enlargement of the gall bladder even though this may be present. The liver, itself, is often tender and enlarged. This liver tenderness is very often most marked behind on pressure between the ninth and tenth ribs to the outer side of the erector spinae muscle. The temperature curve is frequently very suggestive, reaching 103 or more every evening and intermitting or even remitting in the morning. With these local symptoms are, of course, associated the general symptoms of septic infection including an increased leucocyte count. There is no jaundice, unless there is at the same time an obstruction to the outflow of bile through the common duct.

The cause of this severe infectious cholecystitis is often the sudden impaction of a stone in the cystic duct associated with severe infection. The following case is a typical example of its kind.

Case II. Male, aged 45. History of long standing indigestion, no history of jaundice or gall stone colic. Two weeks ago had sudden access of pain in the epigastrium associated with nausea and vomiting. The pain has continued so severe as to necessitate the almost continuous use of morphia. On examination well developed and nourished man, temperature curve remittent reaching 103½ to 104 in the evening. Complaints of severe pain in the pit of the stomach. The upper right epigastrium is exquisitely tender to the slightest pressure and the upper part of the right rectus of board-like hardness. Marked tenderness over the posterior surface of the liver. No tenderness in lower abdomen or over appendix region. Leucocyte count 19,000, 75 per cent. polymorpho nuclears.

Diagnosis: Empyema of gall bladder with probable pericystic abscess.

Operation revealed the small contracted gall bladder filled with stones buried in a mass of omentum adhesions, anterior to the gall bladder and communicating with its cavity was a small abscess. Culture from the abscess and from the nucleus of one of the stones revealed colon bacillus.

A very important symptom brought out by this history is the boardlike rigidity of the right rectus muscle. This is nearly

always present, when any involvement of the peritoneal coat of the gall bladder has occurred. It is a symptom in all respects similar to rigidity of the lower rectus in diseased conditions of the appendix. This sign is, of course, not only present in inflammation of the gall bladder, but also in any inflammatory lesion in the epigastrium.

Jaundice is unfortunately one of the less frequent symptoms of diseases of the biliary tracts; were this otherwise, a more accurate and early diagnosis would oftener be made. According to the available statistics, jaundice occurs in from 12 to 20 per cent. of all classes of gall stone diseases. As jaundice has always been given a leading place in the symptomatology of gall stone disease, a great number of medical men consider it an indispensable unit in the symptom-complex and wait for its appearance before making a definite diagnosis and instituting the proper therapeutic methods. In order that jaundice may be produced, there must be some sort of obstruction to the flow of bile through the common or hepatic duct. Leaving out of consideration the ordinary catarrhal jaundice, the most common form is due to the passage through or the impaction of a stone in the common duct. If the stone passes into the duodenum, the obstruction is relieved and the jaundice promptly disappears. If, however, as is often the case, the stone becomes impacted in the common duct, the typical picture of remittent jaundice occurs. This is easily explained. The stone too large to pass through the common duct obstructs the flow of bile. The common duct behind the obstruction becomes tense and dilates allowing the stone to drop back into the dilated duct. A certain amount of bile is now passed into the intestine diminishing to a variable extent the depth of the jaundice. As the dilatation of the common duct subsides, its walls again close around the stone, the obstruction again takes place with subsequent deepening of the jaundice. The remittance of the jaundice in this class of cases sometimes shows the most remarkable variation, at times even diurnal, but never wholly disappearing. However much of the jaundice may remit, it never entirely disappears. Occasionally there is a long-standing history of frequent gall stone attacks. In nearly all these cases the impaction of the stone is immediately preceded by a severe gall stone colic, which differentiates it from the ordinary catarrhal jaundice and the jaundice due to obstruction from malignant disease. This pain is usually of a very severe type. During the presence of active obstruction, if a careful examination is made, there will usually be found an enlargement of the liver. The

liver tenderness may often be elicited in the way described above. A very interesting feature of these cases was worked out by Courvoisier. This is of such great importance, that I shall describe it to you, even though I am sure it is familiar to most of you. He found that in the overweening majority of cases, obstruction, due to common duct stone, is attended by a shrunken gall bladder, while obstruction due to pressure of a malignant growth is accompanied by distension of the gall bladder. The most probable explanation is that in the vast majority of cases, the impaction of the common stone is antedated by years of recurrent infectious cholecystitis, resulting in a thickening of the gall bladder walls, which make its distension a physical impossibility. In case of cancerous obstruction of the common duct, the comparatively normal gall bladder is capable of almost any degree of distension.

The jaundice of cancerous obstruction in the common duct presents an entirely different picture. Beginning gradually without any history of preceding gall stone disease or initial colic, it is steadily progressive without the slightest remission, reaching at times an almost brown black hue. According to Monahan, the jaundice of gall stone obstruction varies as a rule from bright to golden yellow, while that of malignant disease frequently has a greenish tinge. It is idle in these cases to lay any stress on the presence or absence of cachexia in the differential diagnosis of these two conditions. The presence of complete obstruction to the flow of bile is sufficient no matter what the cause to bring on the most severe symptoms of malnutrition. So that a patient suffering from common duct stone may, at times, present as severe a picture of cachexia as one suffering from malignant disease. If allowed to run its course, a complete common duct gall stone is certain to end fatally; that is, discounting those rare cases, where a common duct stone frees itself by ulcerating through into the intestine.

One of the most important points from a prognostic standpoint is the presence and degree of infection. It must be remembered that in all these cases a certain amount of infection is always present. Even when the infection is less severe, the fever chart, first described by Charcot, is more or less characteristic. The temperature rises high each afternoon, the rise usually accompanied by a sharp chill. The temperature remains up for a short time dropping in the morning to nearly normal. When the infection is more severe, though these daily elevations may be present, the temperature never entirely intermits.

A most severe and usually fatal complication is the occurrence of a true suppurative cholangitis with the spread of infection into the hepatic ducts. During the course of an impacted stone in the common duct with each added attack there occurs a damming back of the infected bile into the hepatic ducts. The hepatic ducts become dilated and if these attacks are allowed to progress far enough a suppurative cholangitis results. The symptoms in these cases change. The temperature curve loses its remittent character and remains continuously high. The tenderness over the entire surface of the liver becomes most marked. The patient presenting all evidences of profound septic intoxication, rapidly loses ground. This suppurative cholangitis is frequently followed by the formation of multiple liver abscesses. With the formation of each new abscess, there is an access of fever and an increase of the already severe septic symptoms. Occasionally an abscess occurring on the upper surface of the liver may result in the formation of a suppurative abscess. The treatment of these cases is more in prophylaxis than in the actual cure. After a true suppurative cholangitis when the formation of liver abscesses has occurred, the outlook is entirely unfavorable. This is an added reason for the early operation for impacted stone, particularly when there are evidences of infection. Even in these most severe cases the operative interference, which is the only possible chance, must be followed out. The following is a typical history of stone in the common duct.

Case III. Female, aged 40. Complains of jaundice. No previous history of gall stone colic or jaundice. Up to two weeks ago was in perfect health, when she was seized with a sudden severe attack of pain in the epigastrium and nausea and vomiting. On the third day after the attack, noticed that she was yellow. The jaundice with very slight remissions has continued and become more intense up to the present time. Every third or fourth day there has been a slight remission of the jaundice with the appearance of a small amount of bile in the stool. Since the onset of the symptom, the patient has lost nearly 40 pounds.

Examination reveals a badly nourished but rather fleshy woman deeply jaundiced. Stool clay colored; urine loaded with bile, no sugar or albumen. On examination of the epigastric region, there is no evidence of any enlargement of the gall bladder. There is a distinct tenderness over the gall bladder region. Pain in the region of the gall bladder is almost constant. Leucocyte count 10,000. Fever intermittent reaching 102 every evening. With each elevation of temperature a

distinct chill.

Diagnosis: Stone in the common duct.

Operation revealed a contracted gall bladder containing no stones. The common duct was dilated to the size of an index finger and in the ampulla of Vater was found a single round stone, about three-quarters of an inch in diameter. Drainage of common duct and gall bladder. Uninterrupted recovery.

Contrast the above with the following case, which is typical of malignant obstruction of the common duct.

Case IV. Male, aged 48. Two years ago gastroenterostomy for chronic ulcer. Since then entirely well until the outset of the present illness. Four weeks ago he noticed that he was gradually becoming jaundiced. There has been no pain at any time. Patient complains of very severe itching. Examination reveals an emaciated cachectic man extremely jaundiced. Stools clay colored. Urine loaded with bile. On examination of the epigastrium a greatly distended gall bladder may be plainly mapped out. There is absolutely no tenderness. Leucocyte 18,000.

Diagnosis: Malignant obstruction of the common duct.

The patient was observed for a week during which the jaundice increased without the slightest remission. At the end of that time an operation was done to relieve the patient of his intractable itching. The gall bladder was found dilated to the size of an orange and filled with bile. An adherent carcinoma of the pylorus was found with secondary involvement of the glands of the lesser omentum pressing on and obstructing the common duct, which was enormously dilated. A cholecystostomy was done. The patient recovered from the operation and left the house after the third week with a biliary fistula, the jaundice and itching relieved. He died after the lapse of two months.

The diagnosis of stone in the common duct is incomplete without taking into consideration the possible involvement of the pancreas. Since the work of Mayo Robson, begun ten years ago, the correlation of inflammatory affections of the pancreas with gall stone has been well demonstrated. This may come about in one of several ways. It has been anatomically ascertained that in about two-thirds of the cases the common ducts runs through the head of the pancreas, so that a pancreatic sclerosis or a carcinoma of the head of the pancreas may cause jaundice by pressure on the common duct.

The common duct and the duct of Wirsung have, as a rule, a common opening into the duodenum through the ampulla of Vater. Remembering this, it is a simple matter to understand that the same causes incident to

infections of the biliary passages may act on the duct of Wirsung and the pancreas itself. That is, an infection of the duodenum may ascend into both the biliary passages and the duct of Wirsung, or into either. After a stone has become impacted in the third part of the common duct, that is, in the ampulla of Vater, the duct of Wirsung is occluded. The infected bile and the pancreatic secretions dammed back into the pancreas may and frequently do result in an inflammation of the pancreas. The diagnosis of pancreatic disease other than carcinoma depends almost entirely on the examination of the urine and feces. In the absence of jaundice, the bulky white stool is characteristic of involvement of the pancreas. On examination the stool will be found to consist mainly of undigested fats. The muscle fibres are found in a state of almost incomplete indigestion. In the absence of jaundice stercobilin will be found in the stool. When there is in addition an obstructive jaundice and the stool are acholic, their significance is more difficult to determine, as the absence of bile itself is sufficient to interfere with fat digestion. In these cases it is well to use the Schmidt test meals. For three days the patient is fed on starches and proteids in known proportions and the stools examined. If the pancreatic secretion is absent, the stool will be found to contain large amounts of unaltered fat and muscle fibres. If, however, the pancreatic secretion is present and only the bile lacking, the fats will be found saponified.

If sugar is found in the urine, it is fairly good evidence of disease of the pancreas. This, however, is rarely the case. The test devised by Cammidge depending on the demonstration of sugar yielding substances in urine free from sugar itself, is strongly indicative of disease of the pancreas. These tests should never be omitted.

It should not be forgotten, that whether the primary disease be gall stones or inflammatory infection of the head of the pancreas, the treatment is *a priori*; that is, drainage of the biliary passages. A moment's digression is, I think worth while to discuss the favorable influence, which drainage of the gall bladder exert on chronic inflammation of the head of the pancreas. When the pancreas is chronically inflamed, there is an obstruction to the outflow of bile, which is dammed back into the pancreas increasing the already existing inflammation, thus forming a vicious cycle. The drainage of the biliary passages by diverting the biliary flow to the outside relieves the back pressure of bile in the pancreas and gives it a chance to recoup. After the gall bladder has been drained, it is interesting to note the disappearance of the Cam-

midge reaction and the fat stools.

There remains one class of cases to be discussed. The gangrenous infection of the gall bladder with perforation. The symptoms are very like those of acute infectious cholecystitis, except, that if possible, they are far more severe. As in so many cases of gall stone disease there is, as a rule, no preceding history, which would indicate the diagnosis. Without warning the sufferer is seized with agonized abdominal pain and vomiting. As in so many cases of grave intra-abdominal disaster, the pain is not strictly localized to any single area. On examination, the entire abdomen is found rigid and excruciatingly tender with no localized tenderness over the gall bladder region. The patient at the same time gives every evidence of severe shock. After 24 to 48 hours the symptoms merge into those of general peritonitis. Several years ago Dr. Ransohoff observed in a case of this kind a localized jaundice of the umbilicus, which enabled him to make a diagnosis. As a rule, however, the diagnosis of acute gangrenous appendicitis is made, as this is the most probable. An early operation reveals the gall bladder black, gangrenous and with a perforation seeping bile into the abdominal cavity. It is surprising to see, considering the severity of the symptoms, how favorable the prognosis is; that is if the operation is done early. Of six cases operated on by Dr. Ransohoff, there was no fatality. The following case is typical of this condition.

Case VI. Male, aged 42, well developed and nourished in severe condition of shock. Thirty-six hours ago was seized with violent pain in abdomen, nausea and vomiting. Vomiting has continued ever since and pain has taken on a colicky character. Twelve hours ago the pain became suddenly more violent and the attending physician noted that the patient's pulse became very rapid and weak. Physical examination: Temperature 102, pulse 120. Abdomen tensely rigid and generally excruciatingly tender. No localized tenderness. Recognizing the presence of a great intra-abdominal disaster, no time was wasted in using other means of making a diagnosis. An incision was made along the outer border of the rectus muscle and free bile stained fluid was found in the abdominal cavity. The gall bladder quickly exposed was found gangrenous and black with a small perforation near the fundus. The gall bladder was surrounded with sponges, quickly opened and a number of stones removed; one from the cystic duct. As the patient was in too precarious a condition to risk a cholecystectomy, the gall bladder was drained and the operation quickly completed. The recovery was uneventful.

The cases I have cited have been chosen as examples of the conditions, which they typify.

REPORT OF FOUR CASES OF APPENDICITIS.*

By J. T. DUNN, LOUISVILLE.

Here are three classes of cases of appendicitis which frequently confront the surgeon.

First, that class of cases which the surgeon likes most to see, those who do not deny him the privilege of carrying out any treatment he may order, and who even blame him if he does not carry out the proper plan of treatment to the letter, leaving nothing for their own decision; namely, operate as soon as you like. To this class Cases 1 and 2 belong and are typical of this class.

Case 1. Geo. B., age 35, colored. Primary attack of appendicitis. Symptoms: Onset sudden, with rigor, intense general abdominal pain, vomiting, general muscular rigidity, which yielded somewhat to hot stupes and bowel evacuation. At the end of 24 hours, the pain had become localized at McBurney's point, where the rectus muscle stood guard like a board. Pulse and temperature normal throughout. Diagnosis of appendicitis was made, and immediately the request was made of me not to wait but to secure quarters at the hospital at once and remove the appendix. I promptly and cheerfully complied with the sensible request and removed a gangrenous appendix through a McBurney split-muscle incision, and closed the wound by layer suture, without drainage. In eight days the patient left the hospital on his feet.

Case 2. Mrs. N., age 43. Symptoms: Onset sudden; pain in the right abdominal region, most severe in the region of the liver. Became general later and soon centered in the appendicular region, and was guarded by a rigid rectus muscle. Vomiting and increased pulse rate and elevation of temperature. Calomel purge and hot stupes quieted her for the night.

The following day operation was advised, but she was slow to consent, until at the end of about 48 hours, when she was removed to the infirmary and the appendix removed. It was found bound down by adhesions and in a gangrenous condition. A quantity of fluid escaped when the peritoneal cavity was opened. Drainage was made through a stab wound low down, and the split-muscle incision was closed. Drainage of serum discontinued in 48 hours and drain was removed. Convalescence was uninterrupted, the patient going home on the twelfth day.

* Read before the Muldraugh Hill Medical Society.

The second and less desirable class of cases, and to which many more of our patients belong, is the class who put you off from day to day and prefer to assume all responsibility for whatever may happen, until there develops some sudden, unsurmountable obstacle, which drives your argument home and they find they can no longer resist. To this class the following case belongs.

Case 3. Miss E. L., age 18. Symptoms: onset sudden; seized with pain in the abdomen, which became localized in the appendicular region. Muscular rigidity typical; nausea and vomiting, with elevation of temperature and increase in pulse rate. McBurney's point very painful. Patient was first seen by me at the end of the second day and operation advised, but refused by the patient and family. Routine treatment of starvation, enemas to unload bowels, nutritive enemas, turpentine stupes, opiates to relieve pain, and normal salines per rectum by Murphy method, resulted in carrying the patient through to the 18th day, when it became evident that it had become a pus case, as indicated by elevated temperature, increase in pulse rate, sweats when asleep, coated tongue, and a mass at the site of the appendix. Operation was now consented to and about two ounces of pus drained through a split-muscle incision. Adhesions were not broken up; consequently the appendix was left in position. The incision was left open except for the angles and the tube drainage instituted. Convalescence was tedious; pus continued to flow for two weeks and the wound closed by granulation. Patient left the hospital on the 29th day. This class of cases may have recurrent attacks of appendicitis.

The third class is a class the surgeon seldom gets hold of, though it is the ideal time to operate; namely, the interval operation or between the attacks. This class of patients always think they will never have the next attack. Consequently, while they are well they argue that they will stay well, and they will not go under the surgeon's knife. Fortunately there are some who are brave enough to submit before the second attack, but they are few. Most of the interval operations are done on patients who have had repeated attacks until they became convinced that they will never be safe again without operation and finally submit. To this class the following case belongs.

Case 4. Miss H., age 17. History of three previous attacks of appendicitis. The first one a severe appendicular colic lasting only a few days; then an intermission of a few weeks, and a second attack lasting two weeks. Again there was an intermission of a month or so and a seven-weeks attack, and with the

three attacks increasing in severity and duration in rapid succession, she made up her mind to come to Louisville from Bowling Green and have the appendix removed as soon as she sufficiently recuperated. I operated on her about the fourth week after the last attack. Removed the appendix through a split-muscle incision and closed without drainage. The appendix contained three small concretions or stony deposits. Patient made an uninterrupted recovery and returned to her home on the tenth day.

WHAT IS THE DOCTOR DOING?*

A. W. CAIN, SOMERSET.

Mr. President, Gentlemen of the Pulaski Medical Society, Ladies and Gentlemen—The subject assigned me by your committee on program, "What is the Doctor Doing?" is of much importance to us as a profession and to you the laity and our patients. For too long have we allowed you to think and you have been willing students that our only mission was to administer nauseous drugs, violent emetics, drastic purgatives, to blister and bleed and for lack of a better understanding, when we have attempted to prevent the spread of contagious diseases for your benefit, we have often been accused of selfish motives.

Allow me to say here with all the emphasis possible that it is always for the good of the public that vaccination is urged, that nuisances are abated and that quarantines are established. From a selfish point of view it would be far better for the doctor if epidemics were encouraged, but in an experience of twenty-four years in the medical profession, notwithstanding that in many cases the physician in charge knew that he would be censured and probably lose some of his best patients I have never yet seen him shirk the responsibility of trying to prevent the spread of contagious and infectious diseases.

Sanitary science, hygiene and preventive medicine claim one of the brightest spots in the history of our profession. In fighting disease our chief weapons are: First—Education of the public, teaching you to fully appreciate the chief dangers, to realize the source of infection and how to escape it.

The doctor is doing—is urging the compulsory registration of all cases of tuberculosis, to reduce the infection to a minimum, the foundation in suitable localities by the city and by the state of institutions for the treatment of early cases of this disease and special hospitals for the chronic and incurable cases. Our state is far behind in this particular and the doctors are doing all in their power to get proper relief by our present

*Read before the Pulaski Medical Society.

Legislature. It is believed by those best informed on the subject that one-third of the deaths that occur in this state every year are caused by tuberculosis, typhoid fever, diphtheria, dysentery and scarlet fever. All of these diseases are practically preventable. This unnecessary sickness brings an annual expense upon our people that is greater than that collected for all other purposes. The doctors are doing all in their power to prevent this loss of life and expense, but we need specially skilled city, county and state health officers who are supplied with sufficient funds and who are paid at least for their time and expense, but even more than this we need the assistance of public sentiment which you alone can give. There is no question but what tuberculosis can be controlled, and in a comparatively short time it will cease to exist. The doctor knows how to prevent this disease and is willing to do the work if you will only lend him your assistance. There is no such thing as heredity in tuberculosis.

Typhoid fever is a preventable disease and should not occur. Think what a saving it would be to our city and county, not only in saving the lives of citizens who are usually in the prime of life, but think of the enormous expense in doctor bills, nursing, drugs and loss of time, all of which can be easily prevented.

Scarlet fever and diphtheria can practically be controlled and the percentage of cases of pneumonia can be greatly lessened. When carried out properly the treatment of rabies is now so successful that the mortality is less than one-half per cent. That this disease may be stamped out by careful quarantine of suspected animals there is no much doubt.

Among the most remarkable modern discoveries is the cause of malarial fever. Briefly stated the disease is transmitted chiefly by a certain variety of mosquito. The discovery of the cause of this disease in 1880 has not only prevented great suffering and loss of life, but has made possible the settlement of tropical countries and the carrying out of great enterprises, such as the completion of great railway systems and canals.

It is a shame for a case of smallpox to exist as vaccination is a certain preventative, as is shown in Germany and other countries where vaccination is compulsory. All children should be vaccinated before they are six months old.

The recognition of the contagiousness of puerperal fever by the immortal Holmes is one of the most striking victories of preventative medicine. The mortality having been reduced from 6 to 10% to less than 1-2 of 1 per cent.

Venereal diseases continue to embarrass the social economist and perplex and distress the profession. The misery they cause is incalculable and the pity of it is that the cross is not always borne by the offenders, but innocent women and children share the penalties. We must get away from this false modesty. Parents, teachers and ministers must inform themselves on these subjects and public lectures must be given and literature distributed. Like other infectious diseases the board of health should have supervision and all cases should be promptly reported. The doctor is urging that these things be done. Does he not deserve your assistance in getting proper legislation? If you think he does will you not ask your city council to encourage the city board of health in their work by furnishing them what they need to do good work? Ask your county judge and the various magistrates to lend the same encouragement to your county board of health, and will you not ask your senator and representative and urge them to support the bills on this subject now pending before them? We believe you will.

The investment of a million dollars by Mr. Rockefeller for the extermination of Hook Worm disease shows that men of great intellect and wealth are becoming greatly interested in preventative medicine. Heretofore states and governments, judging from their appropriations for different purposes, have considered it a better business to spend their money on plants, animals, birds, etc. This is well understood by the following story:

"THE YOUNG MOTHER AND THE FAT HOG."

One time a little mother who was twenty-five years old, began to feel tired all the time. Her appetite had failed her for weeks before the tired feeling came. Her three little girls, once a joy in her life, became a burden to her. It was "Mamma, Mamma," all day long. She never had noticed these appeals until the tired feeling came. The little mother also had red spots on her cheeks and a slight, dry cough. One day, when dragging herself around, forcing her weary body to work, she felt a slight but sharp pain in her chest, her head grew dizzy and suddenly her mouth filled with blood. The hemorrhage was not severe, but it left her weak. The doctor she had consulted for her cough and tired feeling prescribed bitters made of alcohol, water and gentian. This gave her false strength for awhile for it checked out her little reserve. When the hemorrhage occurred she and all her neighbors knew she had consumption and the doctor should have known it and told her months before.

Now, she wrote to the State Board of Health and said: "I am told that consump-

tion in its early stages can be cured by outdoor life, continued rest, and plenty of plain, good food. I do not want to die. I want to live and raise my children to make them good citizens. Where can I go to get well?" The reply was: "The great Christian State of Indiana has not yet risen to the mighty economy of saving the lives of little mothers from consumption. At present the only place where you can go is a grave. However, the state will care for your children in an orphan asylum after you are dead, and then in a few years, a special officer will be paid to find a home for them. But save your life—never. That is a cranky idea," for a member on the floor of the Sixty-first Assembly said so. "Besides," said he, "it isn't business. The state can't afford it." So the little mother died of the preventable and curable disease, the home was broken up, and the children were taken to the orphan asylum.

A big fat hog found one morning that he had a pain in his belly. He squealed loudly and the farmer came out of his house to see what was the matter. "He's got the hog cholery," said the hired man. So the farmer telegraphed Secretary Wilson, of the U. S. Agricultural Department (who said the other day he had 3,000 experts in animal and plant diseases), and the reply was: "Certainly, I'll send you a man right away." Sure enough, the man came. He said he was a D. V. S. and he was, too. He had a government syringe and a bottle of government medicine in his handbag, and he went for the hog. It got well. It wasn't cranky for the government to do this, and it could afford the expense, for the hog could be turned into ham, sausage, lard and bacon. Anybody, even a fool, can see it would be cranky for the state to save the life of a little mother, and it could not afford it either.

Moral—Be a hog and be worth saving.

Now, from what has been said, it is very evident that there exists a very great difference of opinion between John D. Rockefeller and the average state government as to the value of public health. Either one or the other has made a big mistake, and if the oil king has made a bad business move, it is about his first one. Whatever many people may think of his business methods, it would be rather difficult to find a sensible person who questions his business sense.

It is believed this gift will serve its chief purpose not in the eradication of hookworm, which it will to a large extent accomplish, but as a demonstration to state governments of the value of human health and life. And when that good day arrives, legislatures will investigate and verify the unanimous conclusion of scientists and statisticians, namely,

that our country is losing 250,000 lives or their equivalent, \$400,000,000 from sickness every year. Then in a great sanitary war against preventable disease, state governments will honor John D. Rockefeller by following his lead.

"WHAT IS THE DOCTOR DOING?"

By J. W. F. PARKER, SOMERSET.

(The Court room is very cold). I may be able to warm myself, by drawing on a heart old and often tried and yet warm, but I cannot make comfortable this capacious hall, or counteract the chill of this midwinter day; nor will I criticise the maiden (new) official in charge of this public edifice.

Ladies and Gentlemen, honoring our Society with your presence, I will, trusting your greater charity, address my remarks to you; and to aid my memory and properly limit my speech I will read from a hastily prepared manuscript.

Being a senior in this organization, and old in the profession of medicine as known in this community, I will speak in candor and sincerity on the subject being discussed, but

First.—It is my grateful duty, prompted by an unhesitating sense of propriety to commend the address of Dr. Cain. It is eminently just to the profession, it is instructive to the laity and the public, and fraught with wise suggestions and admonitions for the commonwealth, for legislators, and those in authority.

The presentation of this subject, of professional and public interest, has been wisely assigned to Dr. Cain, for he is recognized by us as a typical physician, representative and loyal, and honored by the people with a large patronage, showing their appreciation and confidence in his fealty to the public.

He has very properly and impressively spoken. We trust what he has said will be treasured and heeded by all parties concerned.

No, the practice of medicine is not a selfish and mercenary business, especially as relates to the public services of the profession.

I once heard an old physician in this community, when reminded that he had money, say he had not made it by his practice, "but by speculation." I need not explain for Dr. Cain. He, his fellow citizens are glad to see, is a thrifty man. He is competent and efficient. His people have monetary and business capacity, but if you had a statement from Dr. Cain, (if you had it would be a

* Read before the Pulaski Medical Society.

eandid one), I venture it would be that the emoluments of his practice scarcely afford him the expenses and a livelihood.

There are others here, intelligent, capable, business men, more than mediocre, who have long toiled in the practice of our profession, and yet are poor men.

I will not specify, except as to Dr. Cain, who is made our author on this occasion. Age and circumstances may justify instancing some of my experiences too. When I was yet a boy I learned a trade, a secular business, and I was an adept. Many days and nights, for I always worked nights and days, I made from three to five dollars, and paid it over to my good father, who was raising a large family—and I owe him yet. Then, while I was yet in my teens, I went to keep store, and attained in my town rank as first-class store boy. But I was aspiring. I had a friend who was a physician, and enthusiastic for his profession. He suggested my adaptedness. Perhaps I was vain and flattered, but I laid to, read and studied hard, borrowed money and went to a medical school, then the best in the country, till I obtained, on the most legitimate terms, a diploma. I put the great "sheep skin" away, not on exhibition, but in safe keeping, for self assurance.

In my day the young practitioner had to study hard to learn well much that he had not been able to acquire in a two years' course. Now the young man must be studious to keep in memory and use discreetly the vast amount of knowledge with which he has been loaded in a prescribed course of four to six years.

I will not, I cannot, now recount my labors in the practice, and my zeal for the usefulness and honor of the profession, for sixty years. All over this wide country, from the Roekastle to the waters of Green River; from King's Mountain to New River, especially throughout this large county, there is not an old road, there is not a way, from which may be seen yonder an ancient habitation, a lonely chimney, or such an old land mark, where I will not remember that I have been there some day, or some night; to rescue the life of some mother, or to relieve some sufferer, or to resuscitate an asphyxiated child, now a well-to-do citizen of Montana, Oklahoma or some other great new state.

As to pecuniary rewards: I have in my office stacks of old account books, and many notes, representing ten thousand dollars, approximately stated, not to tell how much, (with interest) of unpaid fees. Not useless charges against the indigent, though I hardly ever refused to go, hardly ever, because the poor man frankly told me he had no money,

but fees that should have been paid, with proper effort upon the part of the debtors, and exacting demands when due.

But, I usually thought more about current emergencies in my practice than I did about getting pay for what had been done—indeed it was often hard to get.

As a part of my breaking-in experience, in a certain case I was taxed with all I could do to save the life of a citizen with typhoid fever complicated with pneumonia, ten or twelve miles from town, in the midst of a very cold winter. The man had money out on interest. He seemed appreciative for I never met him afterwards while he lived but he declared his conviction that I saved his life. I charged him about fifty dollars for at least half a dozen visits, days and nights. When he came to settle he would not agree to pay but fifteen dollars. I had to warrant him. The case was tried in the quarterly court, by a jury of by-standers—one, at least, was drunk, hurrahing for his side, (those were old times), my bill was sealed about half. I was indignant, and declared I would appeal (to another jury of course.)

Mr. James, who was the opposing attorney and an eminent member of this bar then, had occasion just then to call me in his family. He said (referring to my threat to appeal): "Your claim was just, but you will find, with further experience, that the people, who compose juries, are generally prejudiced against professional fees. You will be handicapped."

I have in all my subsequent years very rarely sought to collect a fee by law. I have really been a poor collector. My own wants often gave way too, to the unspoken plea of poverty. An instance: I once needed a milk cow. I heard of a man away proposing to sell one. It happened this man owed me. I had saved him from bleeding to death, by tying a blood vessel. He had a cut that for some time jeopardized his life, while I took care of him. He settled with a note for \$60. I rode miles out of my way, to find an opportunity, as I thought. When I approached his habitation I observed several small children about the premises. He was a little away at work. I promptly stated my business, and told what I had heard. He said he had only one cow and hadn't proposed to sell it unless it was some idle talk; but, said he, "I'll give you up the cow; I owe you and ought to pay you; take her and give me credit for what she is worth." I queried, "What will your family do for milk?" He answered, "We will make out somehow," and he looked troubled. He had wasted his means. I said, "No, no; I'll not drive that lone cow away and leave yonder group of children

without milk for their supper." He is dead long ago, and dead his debt with many others.

I have shown that when I set out in life I was confident I could make a living. When I was 21 I was employed in a store for wages. My father, with a large family, had an account there. When he came in to settle he noticed a credit and asked, "What is this?" I explained that it was a balance due me the 12th of March, my wages. "Why," he exclaimed, "I didn't want that." I replied I knew you didn't; but I owe it to you, and much more. He choked up, his noble heart was full. I proudly declared, "I am willing to take an even start with the world, if you will only say the word go."

Now, at this other end of a long life, spent in the practice of this profession, and its humanities, superadded to ordinary philanthropy and patriotism, I am praying that I may be able to quit even still.

I have spent three score years in the arduous practice, in a rugged part of this proud commonwealth, where I found a woman I loved for life, (sacred her memory), who was the early orphaned daughter of a noble father, who in the flush of prime manhood, well qualified, sacrificed a life of flattering promise, the victim of a malignant disease, in faithful discharge of the duties of the profession to which he had devoted himself—Dr. Jno. A. Caldwell, M. D., a native of Boyle County, graduate of Transylvania, in 1825; died at Somerset, September 29th, 1840.

I am a witness, have known many instances of the loss of life, and the loss of health. Few, very few, have gotten rich.

If I have said aught that seemed a boast, why, I am speaking for these, my fellow physicians, and the devotees of medicine throughout our great state, everywhere; if anything to commend or approve, it is to their credit.

WHEN SHOULD A SURGEON BE CONSULTED IN APPENDICITIS.*

By J. T. DUNN, LOUISVILLE.

My apology for writing upon this subject today, is that there is still a tendency, upon the part of many practitioners, to watch a case of appendicitis for a few days to determine whether or not the case in hand, is going to be severe enough to demand service of surgeon to save life.

There are a few surgeons who operate upon every case of appendicitis as soon as diagnosis is made, or as soon as the case is seen, regardless of the stage of the disease. The late Dr. Cartledge, in 1902, in writing upon this subject, advised some rather fixed lines or rules, which his large experience had

taught him, and today we are safe in being guided by the salient points made by him. I wish to quote some opinions of our own Dr. Cartledge and other eminent surgeons upon this very important topic.

Dr. Cartledge says, "To wait in a case of acute appendicitis to see if the case will be severe enough to demand operation is the height of folly, in view of the fact that it is impossible to tell the outcome of any case, and that by immediate action, if the case is seen early, we avoid all the dangers incident to the disease. I believe that patients living three days after an attack of appendicitis and not hopelessly the subjects of general peritonitis, promise a good prospect of getting over that attack of the disease. This very fact has led to the fallacy of many medical men, claiming that the result of treatment by medicine were as good as those by surgery, the surgeon, by his misconception of the proper time to operate, contributing to this fallacious view. We should be firmly impressed with the idea that the patients, who die from acute appendicitis, and they are very numerous, are killed as a rule within the first fifty hours of the disease, with rare exception, as regard that attack."

At the present time, cases of appendicitis may be divided into three stages from the standpoint of wisdom in operation.

First Stage.—The First 48 Hours of the Disease. This is a critical stage, one in which the severity of the disease will usually be forecast. In this stage, rupture of the appendix before adhesions have formed, frequently occurs, and local or general infection result. If the patient survives the first 48 hours, without this occurrence, the greatest danger has past in the majority of cases, for if rupture has not occurred by this time, nature will have walled off the offending organ, and will care for it, in majority of cases under proper treatment, much better than the surgeon.

There can be no doubt that the first stage is the ideal stage for best surgical results during the attack. It has the advantage of cutting short all the varied possibilities of death from rupture and peritonitis, and of recurrence in case of recovery. Such cases are usually in the pink of condition, and kidneys not crippled with elimination of toxins.

Just here it must not be forgotten that pain in the right iliac fossa is not essential in this (1st 48 hrs.) stage of appendicitis. Editorial in *Journal of American Medical Association*, August 16, 1902, says, "One of the most significant symptoms of inflammation of the appendix, as distinguished from other pathological conditions that may develop in the right iliac fossa, is undoubtedly

*Read before the Henry County Medical Society.

the tenderness over McBurney's point. Too often it is assumed by the practitioner, that there must be spontaneous pain in the right iliac fossa whenever acute appendicitis develops. It is perfectly possible, however, for an active inflammation of the appendix to be dangerously progressive without the slightest pain in this region, or with only some passing discomfort on movement. Yet a touch over the point midway between the anterior superior spine and the umbilicus may reveal the existence of exquisite tenderness. This is the significant value of the diagnostic symptom discovered by the New York surgeon, and the real reason why McBurney's point has attracted the attention of the medical world." And Moullin *Lancet* (Aug. 22, '03.) says, "Absence of pain is no indication that the most serious mischief is not going on. The initial pain of acute inflammation of the appendix, which is so commonly referred to the umbilicus, is due to the peristaltic action of the caecum or of the appendix dragging upon the attachment of, the peritonium to the abdominal wall. The cessation of this umbilical pain without improvement in the other symptoms, is due to the cessation of the peristalsis caused by the inflammation having spread to the muscular coats of the bowel."

The seriousness of the first stage cannot be reckoned by the amount of nausea and vomiting, but it is present in the majority of cases. Neither can any dependence be placed in the condition of the temperature or pulse. Some of the most serious cases will be normal or near normal. Shrody, (*N. Y. Med. Record*, 1-6-94) points out that "Danger may exist without being shown by pulse or temperature. Pulse, temperature and pain may decline, marking the occurrence of effusions: a deceptive calm. A sudden access of intense localized pain indicates a dangerous change in the local condition." Richardson, (*Amer. Jour. Med. Science*, Jan., '94,) states that, "Too much stress must not be laid on the temperature as recovery may follow a temperature of 105 degrees, and death may occur with one nearly normal."

Howard Crutcher says, "Pain, if violent, sudden, and persistent, indicates probable seriousness of the attack, but nothing as to the natural defenses for limiting infection. On the other hand, absence of pain is undecided between gangrene and resolution."

Pulse and Temperature.—While a rapid pulse and high temperature favor the destructive process, their absence affords no assurance of recovery. Referring to this, Tyson remarks that too much stress cannot be laid upon the fact that there may be gangre-

nous appendicitis in the presence of normal temperature. (*Lancet*, Canada, May, '98.)

Since we cannot be guided by either Pain, Temperature, Respiration, or Pulse or any combinations of these symptoms with any degree of accuracy, we are naturally compelled to inquire what shall we base our decision upon when considering treatment of these cases?

McBurney says, "It is the first twenty-four hours from the beginning of the attack that we can decide not only as to the diagnosis, but as to the probable course and result of the case. If in five or six hours there is no increase in urgency, the patient is not in immediate danger. kept at perfect rest in bed; if in twelve hours there is still no increase in the severity of the symptoms, the patient should soon begin to improve. If the urgency of the case has steadily increased in twelve hours from the time when the diagnosis was made, an operation will probably be called for. After two attacks a patient is sure to have a third, and each attack renders operation more difficult and dangerous. All the advantages lie with operation between the attacks. In an operation during an acute attack, the prognosis is worse." (*Med. News*, No. 24, '96.)

Cartledge says, "If the physician and surgeon could adopt a simple line of practice, based upon the time the patient is seen, or in other words, stage of the disease, and the condition of the patient, the beneficence of surgical treatment in this affection can scarcely be exaggerated. I appreciate the fact that hard and fast lines cannot be laid down, but a working rule is not as difficult as one would at first suppose." Many other quotations could be made in support of operation in the first 24 to 48 hours and abundant proof is at hand to show that by doing so a great majority recover not only from the present attack, but the otherwise almost certainty of future attacks.

Second Stage.—Those who are allowed to go beyond the 48-hour period, enter into our Second Stage, and are a most dangerous class of cases. Here discrimination is to be thoughtfully made.

The experience of A. M. Cartledge taught him to write the following, "A few years ago it was the practice among physicians, and is still in many quarters, to watch the case for two or three days, and if the symptoms were growing more severe, fever greater, etc., to call a surgeon, who, following the advice so prevalent at this time of operating as soon as the case was first seen, plunged in, tore up adhesions, frequently scattered infectious pus, and embarrassed kidneys by anesthesia that had all they could do to eliminate toxins

from the systemic infection. Consequently the mortality was high—certainly at the same time much higher than the same case seen at the same time and under the same circumstances would have been, if left to nature and treated by a low diet and bodily quiet. It is not surprising that observant physicians soon were out with statements in the journals to the effect that more of their cases of appendicitis got well when not operated upon, than when operated upon, the surgeon's misconception of the proper time for operation being the chief cause of this very sensible deduction upon the part of the practitioner."

Again he says, "The surgeon, and I were among the number at that time, rarely operated on a case of appendicitis before the fourth day. The teaching was to wait and see whether the patient had such and such a pulse, if certain things eventuated the patient would probably get over the attack, but if the patient grew worse, he would operate. That plunged us into that state of the disease about the fifth day, when the patient had a coated tongue, a bounding pulse, deficient urinary secretion, in other words, was septic generally, but probably not a general peritonitis, with severe localized inflammatory processes going on, when all the conditions of the patient were bad, and we have never appreciated why numbers of these patients were carried off two or three days after the operation. We scrubbed them, broke up intestinal adhesion, we packed them with gauze, and a number of them died. Unquestionably the point to decide as regards the time of operation applies directly to the rather large class of cases seen for the first time after three or four days had elapsed. These cases should be studied in a separate category to themselves, as they furnish the only ones where the propriety of operation may be in doubt. That many, in fact the majority, of such cases do better without operation than with it, there seems to be little reasonable doubt. They have passed from a safe operable stage into a condition where an operation is often more hazardous than the processes of nature. The truth is that no man has a right, if it is in his power to decide otherwise, to permit a patient to go on in this questionable state, where operation is of doubtful utility. Certainly we know that to operate upon cases of acute appendicitis after the fourth or fifth day is oftentimes a procedure attended with graver dangers to the patient than an expectant line of action. Now, to follow the rule of operating on every case as soon as the diagnosis is made, might apply to this very case diagnosed for the first time on the fifth day. Again, no one with experience in this disease could doubt the

wisdom of operation in just such a case, if seen prior to the formation of adhesion and the absorption of septic matter, namely as in the first twenty-four hours after the onset of symptoms. Operations performed at this time fulfill the same purpose as operations in the interval, namely, they save the patient the danger of an attack of appendicitis which may terminate in recovery, a slow pus infection, or death from general septic peritonitis.

If we do not perform a very early operation, if the patient is still living at the end of the third or fourth day, in the majority of cases, if you will treat that patient by rest in bed, low diet and the administration of proper remedies to improve his condition, and then operate upon him later, you will find that the mortality will be reduced about 5% or less against 18 or 20%, under the old method."

Wyeth says, "In entire personal experience not a death seen, which could not properly be ascribed to delay in timely and skillful surgical interference. Every case from the beginning should be treated by a surgeon, with medical attendant. (N. Y. Med. Jour., June 30, '94.)

J. C. Kennedy says, "That some patients get comparatively well without operation no one denies, but usually improvement commences in such cases within from twelve to sixteen hours from the onset. On the contrary, if the symptoms become aggravated after this time or if the disease persists in spite of palliative measures (opium excluded), it becomes an operative case, and the physician or surgeon who hesitates to advise an operation, robs his patient of one of the best means known to science at the present day, of saving life in this dreaded disease." (Med. Record, Nov. 14, '96.)

Moullin says, "Operation advocated at the earliest possible opportunity in all those cases which have not shown definite signs of improvement within thirty-six hours. Suppuration occurs in a very much longer proportion of cases of inflamed appendix than is usually believed. In many cases of these the abscess bursts suddenly into the bowel with instantaneous remission of all the symptoms; in others the pus gradually becomes inspissated and dried up. It is true that many of these cases recover without operation, but it is not good surgery to leave an abscess in close proximity to the general peritoneal cavity in the hope that it will not burst into it. Another argument in favor of early operation is the very grave effect upon mortality, which the postponement of the operation exerts in the case of those who, because of suppuration or diffuse peritonitis, come to operation at last.

"If in case of inflamed appendix thirty-six hours have passed without definite improvement having shown itself, the responsibility for the consequences must, it seems, rest with those who, recommend that an operation should not be performed." (Lancet, Dec. 16, '99.)

Joseph Price says, "If we made it a practice to operate when the trouble is first recognized, without delay of a day or more for consultations and for therapeutical treatment, the deaths would be very few. The so-called very "conservative" man gives us the ugly abscess cases, and the virulent, perforative cases." (Journ. Amer. Med. Asso., Nov. 24, 1900.")

W. J. Mayo says, "Almost every prominent surgeon in this country has insisted that if the case is seen within the first forty-eight hours it should be operated on, the sooner the safer the operation will be. The more experience the writer has, the more he is convinced that this is the proper course to pursue. If the inflammation is still confined within the appendix and the patient is still in a reasonably good condition, whether it is during the first forty-eight hours, or whether it is during the third, fourth, or fifth day, operation is indicated. There are, at least in Minnesota, a considerable number of cases brought to the hospital in which this favorable condition has gone by. The patient is tympanic, vomiting, with quickened pulse, and we realize that no longer by removing the appendix can we get the material out of the system. Operation at this time will give considerable mortality. Cases that show septic condition placed on the plan of treatment recommended by Ochsner will in a few days bring the majority into a condition in which they can be operated, with a mortality of 4% or less at least, this has been our experience." (Jour. Amer. Med. Asso., Aug. 29, '03.)

A. J. Ochsner says, "The mortality in appendicitis results from the extension of infection from the same source; this extension can be prevented by removing the appendix infection from the appendix to the peritoneum or from the metastatic infection from the same source; this extension can be prevented by removing the appendix while the infectious material is still confined to the organ. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines, and by operation after the infectious material has extended beyond the appendix and before it has become circumscribed. Peristalsis of the small intestines can be inhibited by prohibiting the use of every form of nourishment and cathartics by mouth and by employing

gastric lavage in order to remove any substance of food or mucus from the stomach. The patient can be safely nourished during the necessary period of time by means of nutrient enemata. In case neither food nor cathartics are given from the beginning of the attack of acute appendicitis and gastric lavage is employed, the mortality is reduced to an extremely low percentage. In patients who have received some form of food and cathartics during the early portion of the attack, and who are consequently suffering from a beginning diffuse peritonitis when they come under treatment, the mortality will still be less than 4% if peristalsis is inhibited by the use of gastric lavage and the absolute prohibition of all forms of nourishment and cathartics by mouth." (Med. News, May 2, '04.)

Operation should not be advised in the second stage *except*, First—The patient has a mild attack, few adhesions and low temperature. Second—If on the other hand there is circumscribed peritonitis, a high pulse and temperature, absolute quiet with rectal alimentation should be carried out until the abscess is well walled off, then operation may be safely advised, open and drain, making no effort to remove the appendix.

Third Stage—Is that into which all successfully treated cases pass and are still the possessor of an appendix and still a victim ready to be seized at any time by the same disease, or submit to the "exemption cure," viz:

Interval Operation.—The ideal time to remove the offending organ is after the storm and there is no longer that pathological condition which make the surgeon so fearful of the results when he is dealing with the attack.

Look at the results obtained by the various operators.

Herman Kummel—"Study of 104 cases of recurring appendicitis in which operation between the attacks was performed, without a death. Examination of the appendices removed, showed that in not one case had the organ become normal after the attack. Every specimen showed inflammatory condition. Clinical symptoms are not certain, and one cannot positively determine from them the stage which the inflammation has reached nor the variety to which it belongs." (Berlin klin. Woeh., Apr. 11, '98.)

Bull—"Statistics of four hundred and fifty reported operations during the interval between the attacks showing eight deaths, which would give a mortality percentage of 1.77. If all cases were reported, 5 or 6% would be a fairer estimate. We need more carefully recorded cases." (N. Y. Med. Record, Mar. 31, '94.)

M. C. McCannon—"One hundred and fifty cases were operated on in the "interval" (i. e., after an acute attack had subsided or between two acute attacks in chronic cases.) All these recovered." (Med. and Surg. Bull. Aug. 8, '98.)

It is very evident from the above quotations and literature of today that the profession is pretty well united upon the opinion that the surgeon should be consulted in every case of appendicitis before the second day, at which time you may estimate that only about 2% will be lost. Murphy estimates 2% if operated on in first 24 hours. Morris, less than 1% if operation is done before formation of abscess.

Fowler gives the following mortality:

17% up to the 3rd day.

40% up to the 4th day.

42% between the 5th and 6th days.

50% between the 7th and 8th days.

67% between the 9th and 10th days.

As Murphy has phrased it, "One-half of all the patients who would have recovered by operation will die if we wait until the sixth day."

If the third stage is reached, practically all who submit to operation recover. The quotation and statistics herein given relative to interval operations show mortality of only 1.12% in 704 cases. The surgeon should, therefore, be in consultation with the medical attendant in every case of appendicitis and where positive contraindications do not exist, operations should be advised in:

First—In sudden, severe and stormy attacks, regardless of time.

Second—In mild attacks with gradual increasing symptoms until the third day.

Third—In well marked tumor in appendicular region after the third day.

Fourth—In those cases where symptoms of general peritonitis have begun, but still some gurgling may be detected with the ear to abdomen.

It has already been said that "If we err, let us err on the side of operating too early and not too late."

CASE OF HYDATIDIFORM MOLE WITH REMARKS.*

By CHAS. C. GARR, LEXINGTON,

It is with the permission of Dr. J. C. S. Brice, of Flemingsburg, Ky., who treated the case conjointly with me that I report the following case.

Mrs. P. R., aged 23, has been married for five years and is the mother of one child four years old. This pregnancy was normal in every way, and there is no history of her

ever having a miscarriage.

She has always had irregular menstruation often missing one or two periods, this I think being due to her anemia and poor nutrition.

She last menstruated in the last week of April, 1908. On the 19th of June, seven weeks after her last menstruation period, we were called and found that for three weeks or since June the first she had been suffering with severe nausea and vomiting, spots upon her eyes, great weakness, and almost constant leakage of blood per vaginam. Temperature 102, pulse 120.

Vaginal examination disclosed a very rigid os that would not admit the tip of the index finger. Bimanual examination showed the fundus uteri at the umbilicus. This led us to believe that she was mistaken as to the number of months she was pregnant, as she claimed to be two months, while the size of the uterus showed at least six months. She was kept in bed and the usual treatment of threatened abortion was employed.

I might here state that she lived twelve miles from our office and in a two room tenant house. So it is unnecessary to state that the convenience of even an ordinary country home was wanting.

We saw her from day to day from June 19th until 23d. When the vomiting had become very severe, water was not being retained, and the leaking becoming worse. We then called Dr. C. R. Garr in consultation, he advising us to empty the uterus.

On the next day we tried this under chloroform anaesthesia but the os was so rigid that our small Goodell dilator could not dilate it more than one-fourth an inch. After working an hour with no result, a piece of gauze was inserted into the uterus and she was put back to bed.

On the next day, June 25th, we found our patient still weaker, temperature 105.5-10, pulse 140 and excessive vomiting and uterine hemorrhage still present with the os as rigid as ever in spite of our gauze.

Under chloroform anaesthesia we again attempted dilation with our little Goodell but it was inadequate, so not having a larger one we used Cook's trivalve dilating rectal speculum which accomplished our purpose. With a curette we scraped out numerous little cysts, the first that had escaped to our knowledge, and after manually removing a large hydatidiform mole with some difficulty we curetted again finding numerous cysts in the scrapings.

She gradually improved and in a short time had regained her usual health.

She has had no further trouble to this date.

*Read before the Fayette County Medical Society.

REMARKS.

Hydatidiform mole is a very old, though very rare obstetrical complication. Cases have been reported since the fifteenth century and have been discussed as placental or cystic mole, myxomatous degeneration of the chorionic villi, molar pregnancy, hydatid mole, vascular moles and hydatidiform degeneration of the placenta. Its frequency varies greatly according to different obstetricians.

Edgar has seen it four times in 15,000 cases.¹

Peterson has had one case in 10,000 deliveries.²

Hirst has had three cases in fifteen years' experience.³

Williams has seen three cases in five years.²

Mm. Bowin of Paris saw it twice in 20,375 pregnancies.³

Dr. Speidel of Louisville reports having had three cases in six months. The specimens of two of Dr. Speidel's cases I had the pleasure to see and examine.

It occurred more often in multipara and in the later part of sexual life—22 per cent. occurring between the ages of 40 and 60.¹ There is a tendency for it to recur in the same patient.

As to the pathology there is a proliferation of the cells of the syncytium, and Langan's layer of cells lining the chorionic villi.⁴ These bore into the uterine wall and cases have been reported where the mole bored through the uterine wall into the peritoneal cavity.³ This proliferation of cells results in an enlargement of the villus which becomes filled with a translucent, mucoid, albuminous liquid, having some characteristics of amniotic fluid. These little cysts vary in size from that of a millet seed to a walnut or hen egg.³

If the process of degeneration begins in the early months of gestation all the chorion is involved and the fetus undergoes degeneration too, but if the product of gestation is advanced to four to six months before chorionic degeneration begins, then it is possible that the fetus may live as the placenta is at that time alone involved. Little is known of its cause. Endometritis, syphilis, fibroids and numerous other conditions have been given as causes.

The three most important symptoms are (1) rapid enlargement of the uterus; enlargement out of proportion to the period of gestation; (2) Hemorrhage, which at first appears as a spotting or staining the napkin and which gradually gets worse; (3) The peculiar consistency of the uterus. The uterus is doughy or boggy, but in the case I've reported this was absent as the uterus was unusually firm. Other symptoms are

nausea and vomiting, which is most likely due to the enlargement of the uterus, spots before the eyes, lumbar pains, great weakness and albuminuria.

Often some of the little cysts escape with the leakage and when these can be found a positive diagnosis can readily be made. Edgar¹ gives the maternal mortality at 13% and this is usually due to hemorrhage or sepsis. A guarded prognosis must be given as to the ultimate outcome for chorioepithelioma malignum may later develop. Dr. L. E. Frankenthal reports a case, which one month after removal of the mole required hysterectomy on account of repeated hemorrhages which came from an elevated mass or posterior wall intimately connected with the uterus.

Drs. Burbage and Lang of Boston report a case,⁶ which had a severe hemorrhage one week after removal of mole. Two months later she entered hospital after having bled three weeks. Pan hysterectomy was done three and one-half months after delivery of mole. Two and one-half years later patient was in good health.

In fifty per cent. of Chorioepithelioma there is history of a preceding mole, and ten percent of moles on record were followed by malignant growth according to the statistics of Nattan-Larrier and Brindeau.¹

There is no way of telling a harmless mole from one ultimately to become malignant, so this fact makes our prognosis very uncertain.

The treatment is evacuation of the uterus as soon as diagnosis is made.

In concluding this paper I should like to lay emphasis on the following:

(1) A uterus larger than the period of gestation justifies should be looked upon with watchful eye.

(2) It should be borne in mind after the removal of a mole the possibility of malignancy and the patient should be watched carefully after the operation so that if chorioepithelioma does develop it may be looked after in its operable stage and not overlooked until its metastases have placed the patient beyond hope.

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A STUDY OF PANCREATIC DISEASES.*

BY VERNON BLYTHE, PADUCAH.

To fully appreciate the conditions to be described, a short resume of the anatomy and physiology of this formerly mysterious organ should be given. The abdominal salivary gland, as some have called it, lies behind the stomach, at the level of the second lumbar vertebra, three inches above the umbilicus. Its dimensions are six inches long, one and a half wide, one inch thick, and it is divided into a head, body and tail.

Its head or right end lies behind, snugly in the concavity of the duodenum, where it makes the curve downward. The head is encircled by the inferior and superior pancreaticoduodenal vessels; behind the head lies inf. vena cava, left renal vein and abdominal aorta. The common bile duct passes between the head and duodenum; rarely it passes through some of the pancreatic tissue. Tumors here may cause pressure symptoms to be explained. The neck is the part lying between the notch made by the duodenum above. The notch below is caused by the superior mesenteric vessels and a posterior depression in which is situated the portal vein.

The body lays transversely across the post abdominal wall, and is covered partly by the stomach, and the lesser sac of peritoneum. The tail touches the inner surface of the spleen.

Surfaces. The posterior or lumbar has no peritoneal covering, and is practically inaccessible. The anterior or abdominal is reached by an abdominal incision, and covered by the lesser peritoneal. The canal of Wirsung extends from tail to head, and unites with the common bile ducts or in some instances enters the duodenum separated or jointly. The canal or duct of Santorini is a smaller accessory duct given off at the neck, and enters the duodenum one inch above the orifice or ampulla of common duct, ease of obstruction it acts as a collateral.

Blood vessels here are derived mostly from splenic, hepatic and mesenteric, which in anastomosing form almost a complete circle around the gland. The splenic vein returns the blood into the portal system. The nerves are from the solar plexus, principally the vagus and sympathetic.

The Physiology. In an organ this size, with its enormous blood supply, it would be easy to suppose, that it serves a great purpose in the economical processes of the body. It no doubt does, but much of its function is still a baffling mystery to medical scientists. Be-

yond question it is the origin of perhaps the most important ferments in the human body absolutely necessary to life.

Two secretions are attributed to the pancreas known as external and internal. The external is discharged into the duodenum, and is manufactured in the acini. The internal secretion is discharged from the islands of Langerhans, and it is not connected with the intestinal tract, but goes immediately into the portal circulation.

The most prominent function of the external secretion amyllopsin is to convert starches into maltose. This form of sugar is carried by lacteals into the liver cells, and here aids in forming glycogen. Now the int. secretion trypsinogen unites with the splenic ferments brought to the islands of Langerhans, by the splenic artery, and is discharged in conjunction with the splenic int. secretion by the splenic veins, being now known as trypsin. In the portal system it aids in changing glycogen to dextrose. Trypsin is the great toxic destroying agent of antitoxin. It acts markedly, carried by the neutrophile Leucocytes against bacteria, vegetable poison, venoms, and diastatic ferments.

Acute Hemorrhage. Etiology. It is rarely injured, but heavy crushing blows across the abdomen, may cause it. Septicemia, extension of infection from bile duct, passive congestion, jaundice, and extension of inflammation from other organs are causes.

Pathology. The gland is enlarged. Sections show opaque, white spots due to fat necrosis. The peritoneal covering often shows an exudate. The sac of the lesser peritoneum often contains fluid of variable quantity, with particles of degenerative necrotic fat. Gangrene may result.

Fat Necrosis. This is a peculiar, and striking feature of haemorrhagic pancreatitis, and not often met in other conditions. The area may vary from size of a pin head to a pea. The escape of pancreatic secretions in the peri, and parapancreatic tissue is at times its cause. The ferments act as a factor in splitting the fats, causing necrosis or peritonitis.

Symptoms. They closely simulate perforation from duodenal, and gastric ulcer. The onset is violent, with colic, nausea, vomiting, pain in epigastrium and collapse. The abdomen is soon distended in the upper zone and tenderness.

Diagnosis. Perforate ulcers have a previous history. Intestinal obstruction is less sudden. Bowels are none active, distention of bowels and tumor at seat of obstruction frequent. In the H.-Pan-fixed tumor, sudden on-set, urine shows leucin, and trypsin, sudden on-set lead to a conclusion. *Prognosis.* Exceptionally they recover.

* Read before the McCracken County Medical Society.

Treatment. Symptomatic, operative procedure is full of danger. Suppurative pancreatitis is caused by septic thrombus of splenic vein, extension from abscess of liver, bile duct or by a pancreatic calculi.

Pathology. Fat necrosis is rare, abscess may be single or multiple with a diffuse purulent inflammation of surrounding tissue.

Symptoms. Fever is often considerable. Digestive disturbance, and a fixed tumor in epigastria may be prominent feature.

Gangrenous Pan. May result from emboli of septic character, or hemorrhage, and can scarcely be distinguished from acute H. or the septic. Death almost universally results; autopsy reveals its nature.

Chronic Pan. Etiology. Inflammatory extension from bile ducts, or duodenum, alcoholism, and syphilis are leading factors. *Pathology.* The head is affected first, then the whole gland. There is a close resemblance between it and cirrhosis of the liver.

In the Hypertrophic. The head is large, and palpable, in emaciated patients. The surface of the pancreas is often nodular. The ducts are often irregular and dilated. The atrophic form show a marked decrease in size and degenerations of the glandular tissue.

Symptoms. By obstructions of bile duct jaundice is not infrequent. There is epigastric distress and digestive disturbance, no-digested starch and meat fibres in the stools.

In the atrophic type diabetes often occurs. This is one of the most interesting phases of pancreatitis and were there no other untoward affects of this disease, it would be worth the time and observation of the most skilful medical scientist to unravel this much misunderstood and mysterious disease for the benefit of thousands of useful citizens. In recent years much research work has been done along this line. These efforts are already making clear many things once very obscure. Three experiments have been mentioned, which repeatedly made proved facts of great value and interest to the medical world.

First. By a removal of the pancreas in three-score case Minkowski and Van Mering found in every case diabetes supervened, and never ceased until the death of the animal.

Second. By ligations of the ducts diabetes occurred.

Third. By the use of adrenalin on the acini and Langerhan's island. Glycosuria occurred.

Treatment. Dietetic. By eliminating the fats and starches, resting the gland, by use of Pancreaslin, Symogen, and alkaline drinks after meals, much good can be done.

Pancreatic Cysts. Etiology. Traumatism, obstruction of gland ducts, and circumscribed collections of fluids in the tissue from small

haemorrhages are all causes.

Pathology. Cysts vary greatly in size, and usually lie to the left of the median line of the body. The fluids contain fat granules, epithelial cells, and blood. It is grayish to brown in color, acid in reaction, but may be alkaline. Its sp. gr. is 1010-1024.

Symptoms. Prominent are nausea, vomiting, fits of colic, a tumor lying below stomach, inflated colon, gradual emaciation and glycosuria. A hypodermic syringe may assist in diagnosis. Pressure symptoms are prominent.

Tumors of Pancreas may be Sarcoma, Gnumma, Adenoma, Tuberculosis and Carcinoma. The last is by far the most frequent. The head of pan. is usually involved. It is nearly always primary, and involves the Wirsung duct and often followed by metastasis.

Symptoms are indefinite, but deeply seated pain in the epigastrium, with jaundice, cachexia, intractable emaciation, and carefully excluding gastric ulcer, gall stones and duodenal cancer will arouse the question of pancreas cancer. Add to this glycosuria, meat fibres undigested in the stool, a fixed median line tumor and symptoms of portal obstruction will close the diagnosis.

The other tumors are occasionally met with. Sex has little to do with causation, but it occurs mostly from 30 to 50 years. The Cambridge test of urine in diseases of pancreas is not infallible, but has a decided value, and should be used when in doubt. Its formula can be found in any good late book on Medical Diagnosis, as that of Dr. Charles L. Green, professor of practice in Univ. of Minn.

"Surgical Aspect."

Remembering the deep situation of the pancreas in the abdomen, the difficulty of operative procedure must be appreciated. The most satisfactory mode of exposing the pancreas for diagnosis or surgical purpose is by an incision in the median line 3 inches above the umbilicus entering the greater omentum, just below the greater curvature of the stomach. Retract the stomach upward, transverse colon downward and the gland is uncovered. Its whole length behind the lesser peritoneal sac is revealed.

Cysts. May be treated by complete removal, but is rarely obtainable and dangerous. They are treated by making a temporary fistula opening into the abdominal wall with a drainage, shortened as the cyst sac shrinks.

Abscess. Aspiration may be used, but must be done with great care, and if any pus shows, operation must follow at once, expose sac before puncture, wall off carefully with gauze, wash out, and drain as in cysts.

Solid Tumor. Medicine here is of no avail. Explanatory puncture has the danger of

leaking and peritonitis. Partial incision is indicated in circumscribed tumors, gangrene and abscess.

But ligation of the pancreas at point of section is recommended by Senn, to prevent haemorrhage, and escape pancreas secretions.

DIVIDING PROFESSIONAL FEES.*

By MATTHEW D. MANN, BUFFALO, N. Y.

This is a commercial age. To many minds, money seems to be omnipotent, and there is a tendency toward its pursuit, either by fair means or foul, as a worthy end in life. The so-called "learned professions" have, up to recent times withstood this tendency and maintained a high tone, holding themselves above the mere pursuit of wealth as a chief aim, thus putting themselves on a plane far higher than that of the trades or commercial businesses.

The difference between a business and a profession is that one is largely selfish, while the other is, or should be, to a considerable extent, altruistic. A merchant, by collecting wares from various places and countries, makes convenient a larger choice of possible purchases. He may also, in competition with rivals, lower prices, but he never gives away his wares for nothing, except as an advertisement—his sole and only object being personal gain. With the learned professions, it is different. The man who ministers to our souls, administers the sacraments of the church and, by his life and teaching, seeks to spread gospel of peace and love, does so, not solely for pay, because he is filled with a sense of duty. He must live by his work, but the living afforded him is often meager and pitiful in the extreme; so his reward must come from some other source. If he allows mercenary motives to creep in to modify his actions, his usefulness is lost.

The lawyer who defends us when attacked, who saves our lives, our estates, or our liberty, or our life even, when unjustly endangered, renders a service which cannot be estimated in money, and which is often inadequately rewarded. It is his duty to do just as good service for the poor client as for the rich. His aim should be to see justice done, and to aid in the accomplishment of right; and, it is when he departs from this rule, that he degrades his profession. So it is with our own calling. It is noble if we choose to make it so, but may become one of the most degrading and degraded occupations in which a man may engage when practiced from a low and

mercenary motive.

The great object of the profession of medicine is unselfish: to bring help to suffering humanity, help when attacked by disease, or, better still, help by prevention. Preventive medicine is the climax, the highest function of the profession. No other profession or calling is so constantly and so successfully striving to withdraw the props which support it. For this we get no pay, and are constantly compelled to contend with opposing forces. Nor is our proper professional work done for pay alone. We never turn away anybody because they cannot pay, but always make some suitable provision for their proper care.

Nevertheless, we must live and live by our profession, for the workman is worthy of his hire. How to regulate our remuneration is a hard matter. "We give something which cannot be weighted or measured." Health, relief from suffering, and life are imponderable; and, yet, it is often for their restoration that we must ask a reward. The amount of this reward must be regulated by the financial ability of the patient. We must be content with what he can fairly give, because no money value can be put on our services.

This makes the practice of medicine a profession and not a business, and sets up a high standard of professional conduct. Unfortunately, this is not the standard of some of our members, and just in so far as they depart from it, do they tend to bring down the profession to the level of a business, in other words, to commercialize it.

This departure from the proper standard is shown in several ways. The most degrading and one likely to be followed by disastrous consequences is a practice which has sprung up within recent times of the secret dividing of fees. A physician—the family doctor, we will say,—has a case which seems to need a surgical operation. Not having a surgical training, he seeks a surgeon of skill and experience to do the work for him. The operation is performed, the patient recovers, the surgeon receives his fee, the doctor is paid. Everything is well, and all are contented. This is the proper or normal method. But, sometimes, and quite commonly of late, the doctor, thinking more of his purse than of the patient's welfare, seeks a surgeon who is willing to divide his fee and to give a part to the doctor. So far has this gone, that surgeons seek to get operations by open competition in the percentage of fees offered the doctors, and doctors hawk their patients around, looking for the surgeon who will give them the largest percentage of the fee, who will, in other words, give them a bribe. Of course this is all done on the quiet, as is usual

*Read before the Medical Society of the County of Erie, and Republished by Permission of The Buffalo Medical Journal.

with bribery.

While the practice of dividing fees, or dichotomy, as it has been called, is comparatively modern, having been originated about 1870, it is said, by Pean, the distinguished French surgeon, history tells us that it was attempted in France even earlier. The story quoted in an editorial in the *Journal of the A. M. A.* (June 20, 1903) is somewhat as follows:

In the time of Louis XIV, a young surgeon in Paris had been very successful, but had not yet been able to add the King to his visiting list. Waiting until his older rival, the surgeon to the King, was out of town, he suggested to the King's physician that he be called to do a phlebotomy. Called he was, and the royal blood was made to flow, and a handsome fee came into his hands. He promptly turned over a part of this to the physician. The King heard of it and was very angry. He promptly banished the physician for trading in the royal blood and punished the surgeon.

So dichotomy was not popular with Louis at least, and seems to have had a setback at the start. Still, it has been revived, and it is necessary for us to study its effects. Let us see what they are.

EFFECT OF GENERAL PRACTITIONERS.

A man having the money side of his case alone in view, must be led into many errors. He becomes careless in diagnosis. He jumps at unwarrantable conclusions, and, led by the glitter of prospective gold, rushes his patients off to the hospital for an operation which is, perhaps, unnecessary and unjustifiable. He weakens his own conscience, and changes his feelings toward his patients. Instead of friends to be protected and helped he gets to look upon them as so many victims to be plucked. The question he asks himself is not, can this patient be helped by good nursing, good advice, and proper medication, but, rather, can I find any excuse for an operation, and so gather in a portion of the fee.

When the operation is needed and is justifiable, instead of honestly advising the surgeon as to the financial condition of the patient, for the benefit of the patient, he urges the surgeon to charge a big fee, assuring him that the patient is well able to pay, when the contrary is perhaps the truth. In both these cases there is a conspiracy to rob the patient, and the question arises, whether, were the facts capable of proof, an action could not be successfully maintained in a court of law.

THE EFFECT ON THE SURGEON OR SPECIALIST.

He, too, will become careless in diagnosis,

accepting the ready-made diagnosis of the doctor who brings the case, seeing only that an operation is possible, and perhaps warranted. He feels obliged to operate, even when no operation is needed, in order to sustain the opinion of the doctor, and so maintain the doctor in the good graces of his patient's friends, and thus secure his adherence to himself, and a future supply of operations. The best interests of the patient are not looked out for. "Surgical judgment," one of the best assets of the good surgeon, is not stimulated, but becomes "pocket-book judgment" and a general demoralization results. Study and progress are not needed to keep up his reputation. He has a constant supply of operations from his "runners," and that is all he cares for. Time spent in study and research, he looks upon as wasted, and he only laughs at his honest neighbor who burns his midnight oil in an endeavor to keep up his professional knowledge, and patiently waits for his reward.

Perhaps, however, the worst effect is the blunting of his sense of right and wrong, which results in the performance of needless operations and the taking of unnecessary risks. Should a patient die under such circumstances, from some unlooked-for accident, then the surgeon is little better than a murderer, and the doctor an accessory.

Here we come to an explanation of why such a state of things as I have described is possible. It is due, strange as it may seem, to the wonderful advance which has been made in modern surgery. Operations are so safe to-day, that the risk is little considered. When the abdomen can be opened one hundred times consecutively without a death, as has often been done, a careful diagnosis and good surgical judgment, to a conscienceless man, are of little account. He can make his diagnosis during the operation, and, if nothing wrong is found, the patient is pretty sure to recover. He will have a scar, an empty pocket-book, and a memory of several days of suffering to look back upon, and perhaps an illfounded sense of gratitude to the surgeon who, he wrongly thinks, has saved his life. Some day, perhaps, he will find out the truth, and his opinion change.

EFFECT ON MEN BEGINNING THEIR PRACTICE.

It is well to consider what effect such a false system of ethics may have on the beginners in the profession. A young man recently told me that he had not been in practice six months before he had visits from three different surgeons. They each offered him a percentage of the fees in any cases he might bring to them. They told him that they knew the early years of practice were often hard, and suggested this as a way of making both

ends meet. Leaving a handful of cigars, they departed. The young man so approached will either reject the proffered bribe with scorn, or else will allow the influence to have its expected effect. If poor, he may resist for a while, but, under the stress of poverty and want, gives in and becomes a grafter, like others he knows. It is a great temptation to put in a young man's way.

EFFECT ON THE YOUNG MAN WANTING TO ENTER THE PROFESSION.

On finding out that such a state of things exists in the medical profession, a high-minded man will turn his back on it in disgust. He sees that he will be unable to compete with grafters, and so will have none of it. If of another moral stamp, he sees his chance, and goes into the profession with false ideas and ideals, and joins the grafters. Thus, there is danger that the profession will be continually recruited from the lower classes, lower morally, at least,—which must result in its ultimate degeneration.

EFFECT ON THE PATIENT.

But what of the patient? By this plan the doctors conspire to operate on him needlessly and rob him. He gets poor surgical service, because the less skilful and the less experienced the surgeon, the more he needs patients, and the larger percentage he will pay. He is the one, therefore, to be chosen by our commercial doctor.

The patient has to pay more than he otherwise would, because the surgeon has to charge a fee large enough to enable him to divide, and he is stimulated to do so by the doctor, who expects his percentage. Moreover, as this division is always done in secret, the poor patient probably has to pay a large bill to the doctor when he gets home, ignorant that the doctor already has had a big slice of the fee paid the surgeon.

If the surgeon can afford to do his work for less than the apparent price, then he is charging too much. As there is a premium on faulty diagnosis and inexperienced operating, the patient perhaps suffers unnecessarily, has a poor chance for recovery and a cure, and perhaps equally unnecessarily loses his life. If he finds out the collusion between the surgeon and the doctor, he loses his respect for both the surgeon and doctor, and for the profession as a whole.

EFFECT ON THE GENERAL PUBLIC.

This loss of respect for the profession when these facts—and they are facts—become known, will have disastrous effects, both on the public and on the profession. The public, fearing both the doctor and surgeon, will put off necessary operations until too late, and so lives will be needlessly sacrificed. Losing

faith in the regular profession, and not recognizing that it still contains many honest members, or not knowing how to find them, they will turn to some of the popular fads, like Eddyism and osteopathy, to the detriment of both the public and the profession.

I think it will be admitted that this secret division of fees ought to be stopped. Before we discuss the methods by which this may be brought about, let us examine the excuses given by those who uphold this practice, for there are members of the profession who maintain that it is right and fair.

The advocates claim, both the surgeon and the doctor, that the doctor is ordinarily not adequately paid! that a good diagnosis of some obscure condition demanding immediate operation to save life, is quite as important, and should be as well recompensed, as the operation itself. There is doubtless truth in this, but such cases make up a very small part of a surgeon's practice. Physicians are often not well paid under such circumstances. But whose fault is it? Clearly their own, for not insisting on their rights. They should not refrain from making a demand for a proper fee, leaving it to the surgeon to double his fee and give them half. This is merely attempting to cure one evil by another. The public needs educating. If there is any doubt about the doctor's being well paid, then the surgeon certainly should openly help him to get his rights. This is often successfully done, and is a very different thing from the habitual secret dividing of fees. Let the surgeon openly tell the patient, or his friends, that the fee he is collecting is for both—namely, a joint fee, to be divided.

The *Progress Medical* cites a suggestion of a certain medical syndicate as laudable,—that the family physician should get one-fourth as much as the surgeon; but no such hard-and-fast rule can be made. It must depend on circumstances.

The claim that the doctor is unable to collect his own fee is no argument for a secret division of the fee. It is pleading the baby-act for the doctor, and no self-respecting man would desire such an argument used in his behalf. It is sophistical and wrong. Let the doctor stand up for his own rights, and let the surgeon openly help him in obtaining them, if he has any difficulty.

After all, the surgeon need not be so solicitous about the rights of the poor doctor. Sometimes it happens that the surgeon is cheated out of his rights by an unscrupulous doctor. The doctor collects the fee and takes a large portion for himself, telling the surgeon that the patient is too poor to pay more. This and other "games" are often worked on the "poor" surgeon. I could relate many experi-

ences of this kind, which go to show that most general practitioners are quite able to look out for themselves, and that the surgeon has need to keep his eyes open to obtain his rights.

The practice seems to be extending in unlooked-for directions. Physicians (not surgeons), doing a consulting practice, have informed me that they have been "held up," and asked to divide their consultation fee, threats being made of no more consultations from that quarter unless this demand was acceded to. This may lead to quite as bad results as the dividing of purely surgical fees.

Another way in which it is tried to cover up or make right the dividing fees, is by employing the doctor as assistant at the operation, and secretly, sometimes openly, paying him for his services far above their value. This, again, is all wrong. All surgeons of any prominence or reputation should have their regular assistants, who understand their methods and are of great value in securing good results. To take up with a poor assistant, without experience or training, results in slovenly work, more time employed in the operation, and a lessened chance for the patient. Every surgeon knows this, and appreciates what a good assistant does for him. The argument in favor of this procedure is fallacious, and the practice a mere subterfuge or evasion.

A plan adopted by some is to make an agreement or promise, but when the operation is completed and the fee paid, the surgeon sends a check for as much as he thinks proper. The doctor accepts it in silence. In other words, it is a hands-behind-your-back affair. This surgeon's custom becomes known, and his practice increases as the knowledge spreads. This, it seems to me, is a sneaky, underhand way of doing things, and is the worst of all.

Another plan is to allow the family physician to give the anesthetic, and then for the surgeon to pay him privately an amount out of proportion to the services rendered. This may not work harm to the patient, if the doctor is a skilled anesthetist; but the chances are that he will know little about the giving of either ether or chloroform, and thus the life of the patient will be wrongfully, and often needlessly endangered.

Unquestionably, this practice of fee-splitting has been made more prominent of late by the financial depression and by the overcrowding of the profession. The medical schools have been blamed for this, but this is quite evidently unfair, as the practice is just as common and the overcrowding just as great in cities as where no medical school exists.

I have thus attempted to show that the practice of secretly dividing fees between the attending physician and the operating surgeon is subversive of the best interests of all parties concerned. It is demoralizing the profession. It is causing unnecessary operations, thus subjecting patients to paying unnecessary fees, and to the added risk of life and health. It will certainly cause a loss of confidence in the profession and thus tend to boost irregular methods of practice. It will make it more difficult to prevail upon patients to submit to necessary operations, and thus cause many deaths. It will keep out many able and right-minded young men and fill the profession with those of a lower moral standard.

Undoubtedly a reform is necessary in regard to medical fees. A good diagnosis, which results in saving life by immediate surgical interference, should be well paid. The reform must start from the doctor, and not from the surgeon.

Let us see what others have said about secret dichotomy. There is already a considerable literature to draw from.

The American Medical Association, in its "*Principles of Medical Ethics*," declares Art. VI, Sec. 4:

It is derogatory to professional character for physicians to pay or offer to pay commissions to any persons whatsoever, who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to solicit or to receive such commissions.

In Belgium the Council of the College of Physicians promulgated a decree that:

A physician may not charge a commission of a surgeon to whom he sends a case, and no surgeon may allow such a fee.

An editorial in the *Journal A. M. A.* (loc. cit.) says:

With us it (dichotomy) has certainly never had even a taint of respectability about it and has been practiced only by those who travel on the ragged edge of regularity and those who are clear over it, among the outlaws of the profession.

Dr. Bacon Saunders, of Fort Worth, Texas, calls it a "profession-degrading, conscience-searing, bargain-counter deal." He says it is due to thoughtlessness, or if not due to that, it is due to avaricious enpidity and cannot be defended by any honorable right-thinking man. "If there is any class of men on earth," he says, "whose main-spring of action should be the highest conception of professional, social and moral rectitude, it is our profession."

Dr. A. A. Eshner, Philadelphia, (*Bulletin*

A. A. of Med., December, 1909) says:

Such a course would be compromising to both parties to the transaction, and it could result only in the demoralization of both donor and recipient and the eventual commercialisation of medicine.

Again:

What has been said with respect to the relations among physicians, applies equally to druggists, instrument-makers, and other tradesmen. The payment and acceptance of commissions for articles purchased by patients merely puts an added burden on the latter and entirely without their knowledge and consent.

Dr. E. Gard Edwards (*loc. cit.*) says:

Not many months ago, it was considered news to such an extent that several daily (German) papers made half-column mention of the scandal of 'brokerage on patients,' which involved many of the shining lights of the German profession.

Again:

Come as it may, clothed as it is in all manner of garb, fee-splitting is graft, pure and simple, whenever the general practitioner accepts a fee for the simple reference of a case, even when it is done in the guise of expense paid, because the latter has, as a matter of fact, done nothing for the patient. It is a debasing practice, which tends to supply an unworthy man with patients, simply because he will pay commission to the patient's financial, and, possibly, material detriment.

Dr. Casey A. Wood, of Chicago, says:

There ought not to be any division of fees. Every departure from this common-sense arrangement is fraught with danger to the best interests of the profession, the family physician, the consultant and the patient.

Dr. J. B. Roberts, of Philadelphia, says:

I cannot see how any honorable doctor, preacher, or lawyer could ever believe that a secret division of a fee were a professional propriety, yet some doctors have evidently entertained such a belief.

Dr. William F. Metcalf in his presidential address before Detroit Academy of Medicine says:

Here has arisen the most eleven-footed abuse that threatens the integrity of medical practice today. I refer to the 'division of fees,' by which the general practitioner obtains from the patient, without the patient knowing it, a fee in the form of a gratuity paid out of the specialist's fee and one which he is not honest enough to ask from the patient on his own account. The possibilities of this abuse are infinite at the hands of the no less dishonest specialist, consultant, or surgeon, unless an unmistakable protest by the self-respecting part of the profession goes

out against it. The people of this country have supposed they were rid of the buying and selling of human beings; but what else is it when a man in general family practice, by referring a patient to one specialist, is assured of his velvet reward, while if he permits that same patient to go to an honest consultant, the graft game is not possible? Either party to this kind of compact will naturally regard less and less any interest but his own desire for immediate gain. The vital features of this situation are not affected by any excuse that others are doing the same thing. As individuals, we must be willing to make any sacrifice to maintain our honor and refuse to degrade those to whom such a course is tempting. Medical societies should deal with the evil in the severest manner; and the medical and lay boards of institutions can exercise a large influence by refusing privileges to men addicted to this practice.

In fact, while I have prescribed this as a growing evil, it must in justice be said that the bulk of our profession has spotted it for just what it is, and the man who continues the practice will become an outcast before his fellows. It only remains for the people of any intelligent community to know the facts, to hasten this conclusion.

We can respect the porter who not only expects his *tip* and is not ashamed to be seen taking it, but not the doctor who sells his patients and their confidence.

I wonder how the fee-splitters like being put on a level with porters, barbers, waiters and bellhops.

How can this practice be stopped? I have given this matter much thought, and have come to these conclusions:

First—This (Erie County) Society must take the matter in hand. Resolutions must be passed condemning the matter. The society must put itself clearly on record and establish a positive standard. If necessary, those known to be doing it,—and positive proof can be brought against some of the leading men in town,—should be forced to sign an agreement that they will do it no more.

The county societies in the neighborhood must do the same thing, for it is from the country doctor that some, by no means all, the grafting doctors come. I call upon the county societies adjoining Erie County to act, and to act strongly. I hope also that the State and National Associations will give this matter careful consideration and take definite action. This practice is not confined to Erie County or New York state, it is widespread and is growing. Now is the time to stop it.

Hospital boards can also take action. The surgeons pursuing this practice, are mostly members of the hospital staffs. I call upon the authorities of the Buffalo hospitals, in which the medical and surgical staff is carrying on the practice of secretly dividing fees, to take action at once, and to cause them to stop it, or else to expel the offenders.

Lastly, we must arouse public opinion, both within the profession and outside. This I hope to do hercabouts by the publication of this paper, and I trust I shall have the aid and assistance of all the honest members, and this, fortunately, means a majority, of the profession. The laity will help when they know the truth, for most people will feel as did Louis XIV, when they find that their lives or health is being offered for sale on the bargain counter.

Our profession has done too much good, is too high and too noble to be trailed in the dust by men of low moral standard. Let us act together as men in this matter, and stand together for reform.

37 Allen Street.

INDICATIONS FOR OPERATIVE INTERFERENCE IN ACUTE AND CHRONIC EMERGENCY CONDITIONS.*

BY H. HORACE GRANT, LOUISVILLE.

The obligation on the part of the conscientious surgeon to perform prompt surgery is not confined to accidents or acute diseases. He too often sees for the first time lesions more or less chronic which have been long neglected or misunderstood, where only very prompt work can avert approaching disaster. These lesions constitute surgical emergencies because they are not urgent and have just come to competent surgical knowledge, and because of a mistaken observation over a long period of time by the medical attendant they are no less actual surgical emergencies. It is not worth while to refer to these pathological manifestations beyond a few illustrations, for they are not only numerous but recur over and over again. The busy surgeon sees a heart breaking number of hopeless cases in his consultation room, many of which at one period of their progress were susceptible of complete relief, and not a few perhaps easily recognizable in their curable period, if attention had been directed properly to their symptoms. In malignant disease, particularly in accessible situations, the neglect of prompt recognition and attention is to directly beckon death. Perhaps more than all other easily discoverable lesions, car-

cinoma, particularly of the uterus and of the mammary gland, insidiously fastens upon the victim a hold which daily becomes more and more insusceptible of relief. Often the family physician has no knowledge of the growth. A false modesty or a fear of operative measures leads the sufferer to conceal the existence of a tumor or symptoms. Or she confides in some close misguided friend who gives her misguided reassurance. But too often the family attendant is not really ignorant, but, optimistic through sympathy or fear of alarming, temporizes until it is too late.

It is not too much to say that the reduction of the mortality in surgical disease will rest far more upon the prompt suspicion and reference by the general practitioner of such doubtful lesion, than upon the skill of the operator, essential though is the latter undoubtedly. In the clientele of every physician of considerable practice, in any country, there is every day of the year, some form of this insidious destruction steadily progressing, which proper recognition could afford relief. The more careful and observing and better taught the physician, the less of this will he overlook, and the more frequently and pointedly the attention of the practitioner is called to the importance of this care and observation, the earlier and more generally will the sufferer get the warning. In these days of preventive medicine the whole profession, unselfish of either personal or financial interest, is hourly on the watch to forestall disease and to hasten to guard every avenue by which danger may approach, and to this end must the faithful general practitioner realize that this danger can be confronted and repelled not only by the prevention of disease from a medical standpoint, but through prompt prophylactic surgery. It is to him who sees the skirmish line of symptoms before the overwhelming army of destructive progress arrives, to whom we look for warning and repression. Though perhaps the most striking and usually the most important illustrations of the point before us are seen in malignant diseases, the danger of delay is by no means necessarily confined to this class, and we will presently consider other lesions not ordinarily regarded as emergencies which are equally as important as those just mentioned. The study of all surgical conditions, whether acute or chronic, must be considered in three periods; first, the pre-operative or diagnostic stage; second, the stage in which operation is hopeful, and, lastly, the stage in which operation promises nothing. There is one word that I would like to say here about the difficulties of getting

the patient to the operating table. I don't think all the indecision is found in the general practitioner. Too often the surgeon himself participates in the indecision and his want of confidence in his own opinion and possibly in his ability, leads to delay and perhaps failure of operative steps when there is still plenty of opportunity for relief. And of course we all understand that the fears and prejudices of the patient and his family, the want of means to cover the expenses of the operation, the difficulties in the way of transportation, and want of facilities, all of these must be taken into consideration in connection with the hopelessness of the prospect by any means of treatment. And often the delay or failure is due to conditions beyond any one's control and, of course, carries no reproach. However, transportation of patients demanding operations is a less hazardous step than is usually believed. It is as a rule greatly better to subject even grave acute cases to distress and moderate shock to get them to a suitable place for operation than from an exaggerated fear of this risk to undertake surgery in unfavorable and remote surroundings.

In considering the influence of chronic lesions upon general health, we must concern ourselves as well with the tedious and mild progressive symptoms, as with the rapid and threatening ones. Any protracted interference with the function of an organ, in proportion to its importance will interfere with the general health. The explanation is plain enough. If it is the duty of an important organ to excrete toxins and get rid of enzymes and digestive ferments, which if retained in the constitution, will impair the general health, it is reasonable to suppose that if this extension is long kept up, the result may and probably will be directly or indirectly fatal. Nothing can be clearer than that the long continued irritation of gall stones, not only predisposes to disease of the liver and pancreas, and encourages the development of local carcinoma but that more than this, the imperfect elimination of the liver products gradually poisons the blood, and lessens the power of resistance. Even more familiar than this are lesions which interfere with the function of the kidney, more familiar because they are more promptly produced, and more readily recognized. But there is no doubt of the great general fact that interference with the function of important organs tends either directly or indirectly, as the case may be, to shorten life. What is the significance of these deductions—clearly that chronic lesions of important organs of the body, remediable by surgery should be promptly dealt with lest temporizing and delay establish a

cachexia beyond the reach of either surgery or medicine.

Suppose we consider the menaces of disease amenable to surgery as likely to approach by the following avenues:

First, Acute lesions, such as appendicitis, perforation of the intestines and stomach, intestinal obstruction, injuries to the cranium and such like.

Second, The risks of sudden new developments in seemingly favorable conditions, when proper aid cannot be obtained, as in recovering from chronic appendicitis, latent stomach ulcers and gall bladder and kidney lesions, and unsuspected fractures of the skull, brain, abscess, etc.

Third, The gradual impairment of important functions, permitting auto infection and thus lessening resistance until the organism is too reduced to bear the surgery demanded for relief, as in chronic changes in the kidneys, liver and bile passages, protracted poisoning from cholemia, and the admission of toxins from other impaired functions.

Fourth, In continuing too long an expectant treatment in undiagnosed lesions of the stomach and nutritive canals, until starvation makes death certain with or without operation, as in cancer of the stomach, oesophagus and intestines.

Fifth, Delay in malignant lesions until the primarily localized disease has begun a general inoculation.

Now let us look a little at these in detail and it will appear how the usefulness of the surgeon is controlled by the co-operation of the general practitioner to a far greater degree than perhaps the average doctor appreciates. The first avenue of danger has been too often discussed to need any extended notice, though it would surprise you to know how often, even now after years of explicit and emphatic teaching, even the well known strangulated hernia is temporized with and made worse until the hour of safety is long past; though all teachers are in accord that when the cardinal symptoms of acute intestinal obstruction, viz.: colicky pain, vomiting, constipation and tympany have progressed thirty-six hours at the longest, exploration is imperative, yet notwithstanding this, purgatives, lavage and enemas are persisted in until the condition is hopeless in many, many a case.

While this paper is in course of preparation a child less than two years old was brought to me from the country with a history of intestinal obstruction persisting over a period of three days. This child had had competent medical attention, but the general surroundings were such that operation was not insisted on until it became too late. The

child was in a moribund condition when I saw it and died within an hour before any steps for operation could have been performed even if they had been entertained.

Three weeks ago I saw a lady 70 years of age, who had suffered from an umbilical hernia for many years. A week before I saw her this hernia became painful, enlarged and irreducible and she suffered with obstinate constipation and vomiting. As these symptoms, especially the vomiting, were not aggressive, delay in bringing the patient extended over a period of at least six days from the first attack of vomiting and constipation. An exploratory incision showed a large omental hernia, partially gangrenous and about eight inches of the bowel grasped in a tight constriction, which had divitalized it. Ten inches of the bowel were resected and union made by a direct suture end to end. After this the gangrenous omental was cut away entirely and a radical operation done after the Mayo method. She made a complete recovery. These illustrations serve to show that the time has not yet passed for teachers and writers to insist upon immediate treatment in strangulated hernia and intestinal obstruction.

And notwithstanding there is almost a complete concurrence by authorities that the hour for operation in acute appendicitis is the hour of reasonably certain diagnosis, yet I am sure that not less than 75 per cent. of all acute cases operated in private practice are in the stage of abscess or gangrene when they reach the operating room. But, though perforations from stomach and duodenal ulcerations, as well as those occurring in typhoid fever are daily misunderstood, and though many lesions demanding immediate surgery, perhaps less easy of diagnosis are everywhere overlooked, it is not to this department of acute emergencies that this paper contemplates more than these few words. This part of the subject is constantly discussed, and though reiteration is not out of place in many audiences, we will not go into it here. We all know what to do under these circumstances if we only have the courage and determination our duty demands.

The second avenue of approach of danger is also well presented to the profession, but as it is less generally accepted may engage us for a moment. An uncured though convalescent appendicitis indicates a damaged and useless anatomical remnant, which while only slightly impairing health, is ever a source of threatening danger to life, which a safe operation will surely remove. Almost as well leave a half hidden thorn or splinter undisturbed, as to hesitate to advise the removal of this damaged and worthless visceral frag-

ment. Given favorable surroundings, it is as much the duty of the family physician to urge such a step, as to insist upon vaccination. The same is true of the recurring symptoms of gall bladder disease. The pathology of acute inflammation of the bile passages, taken in connection with their anatomy declares the inefficiency of any medical treatment in recurrent cholecystitis and cholangitis, either with or without calculi, which threaten liver abscess and sepsis, and which drainage by the gall bladder will surely and safely cure. Moreover, obstructions of the cystic and common duct cry aloud for prompt operative relief. A safe and efficient operation is the only relief. I say this advisedly, notwithstanding the claim of earnest and capable men that medical means may cure such conditions. Long before a positive diagnosis has been made in most chronic lesions of the bile passages, many forms of medical measure will have been tried and the time for action has arrived. Only by a dangerous process of ulceration can nature either with or without aid get rid of gall stones obstructing or inflaming the passages so as to produce notable symptoms, and the risk of suitable surgery is far less than that of temporizing treatment and delay. But recently, Dudley Allen, of Cleveland, has published a long article in which he gives two illustrative cases of serious brain disease, following apparently trifling depressed fractures of the skull, which were lighted at the time of injury, and presented no symptoms for two or three weeks. While this article is in preparation I saw and operated on a woman who after apparent convalescence after an attack of what was regarded as probable abortion, suffered four months of invalidism before submitting to an operation for ruptured ectopic pregnancy, when the diagnosis was not definite.

In a recent article Dr. M. H. Richardson, of Boston, declares stone in the kidney is far more common than is generally believed and that it pursues a destructive course on the kidney tissues often unrecognized until too late for relief by operation.

He says: "I am considering not so much the typical case as those comparatively rare ones in which strongly suggestive histories and signs are wanting. I am considering rather those cases which are diagnosticated after a prolonged study suggested only by a suspicion: for many a stone will be found, once the symptoms suggest it—no matter how slightly. Just as the bulk of gallstone surgery comes today from histories which even ten years ago would have excited no great comment, so today, as I fully believe, the early and brilliant surgery of renal stone is going to depend upon lines of investigation

suggested by very indefinite symptoms."

But as I have just said, all these points are so thoroughly discussed, and for the most part not much disputed, that I will merely remind you that even yet the urgency for prompt operative work in such conditions is far from being promptly recognized.

In the third avenue, we have a wide field for speculation. It is here that the hand of the general practitioner in the presence of doubt as to the diagnosis, in an uncertainty as to whether surgical treatment will promise relief, and listening to the importunities of the family, a long course of expectant treatment is persevered in, and too little account is made of the fact that the system is being gradually poisoned and rendered unfit for resistance either to a surgical operation or to advancing disease. But a moment's thought will convince any of us that in as much as these important organs are given active and persistent functioning power, they must either be taking away something that it is bad to allow to remain, or else constantly creating something it is important for the general constitution to possess, and naturally, whatever interferes with that function either negatively or positively with the progress of health, and though life may drag along to chronic invalidism and still be preserved, it is our duty as diagnosticians to acquaint ourselves as fully as possible with all the measures by which an accurate diagnosis can be made, and to also bear in mind how valuable and capable are the resources of surgery. I do not mean that all or even most of these chronic conditions will do better under the surgeon than under the physician, but what I wish to urge upon your consideration is that a number of them that are incurable by medical means are safely reliev-able by surgery, and that this pumber under the advance of surgery is growing every day, and to warn you, lest you allow uncertainty or other influences to make you hesitate longer than is safe before subjecting such cases as are reasonably surely diagnosticated, to the measures that have promised so much for their relief. These patients conducted through a long course of medical treatment become morphine fiends, some of them become insane, nearly all of them are more or less hypochondriacs, and many have their usefulness absolutely destroyed, besides passing out of the realms of curability. It is merely to direct your attention to such of this class as are amenable to surgery rather than to endeavor to point them out further than by the statement that chronic lesions of the gall bladder, stomach and intestines and stone in the kidney are very potent factors in the production of all forms of digestive troubles,

which are so prominent a feature in the class of complaints just referred to.

The fourth avenue, the too long continuance of expectant treatment in lesions of the stomach and nutritive canal, is often the result of an attempt at refinement in diagnosis to distinguish between probable malignant disease and functional troubles until it is too late for a radical operation. Very recently a prominent surgeon has reported 23% of permanent cures after extirpation of portions of the stomach for cancer. As you know, a large number of gastroenterostomies are done in the last stages of cancer merely to allow the patient a few months rest from starvation, and so long as all sorts of test breakfasts, microscopical examinations of contents of the stomach and intestines and other fanciful means of diagnosis are unduly persisted in with a view to be positive of the nature of the trouble, so long will it be impossible to do satisfactory resections of the stomach and get a permanent cure, because the patient comes to operation too late. The relief from this difficulty is an exploratory operation in all cases of suspected carcinoma of the stomach and intestines which admit of a reasonable diagnosis. Exploration in this early stage adds very little danger and offers a sure solution; delay invites almost certain death.

Of the fifth avenue, it would seem that we might almost say the same as we did of the first, that it is too plain to talk about, were it not for the fact that every busy surgeon sees constantly in his consultation room hopeless cases of cancer of the stomach, of the breast, of the uterus, and even of the exposed parts of the body, in which a diagnosis either has not been made, or if the nature of the disease is suspected, some form of expectant treatment X Ray or trypsin injection or some absurd method of local application has been tried until the patient has passed beyond a hopeful prospect. All cancer is primarily local and curable. All such lesions sooner or later involve the constitution and are beyond cure. The delay is responsible for the death.

Two months ago I saw Mrs. W. of Floyd County, who had been a sufferer in bed for about three months. She had become a hypochondriac as well as a morphine habitue due to the continued pain that she suffered. She was brought to Louisville on a cot in a baggage car. I was able to make a diagnosis from the report of the attending physician before I saw her. Upon exploration I found the gall bladder completely enveloped in a mass of adhesions which bound it to the liver and it was almost impossible to identify it. When it was separated from these adhesions the space between the gall bladder walls and

the liver was found to be occupied by a number of gall stones, which had ulcerated through and a considerable amount of necrotic tissue was removed. The diseased portion of the gall bladder was also taken away and a drain inserted in the cystic duct. In three weeks time this woman was completely well locally, but the long continued irritation had placed her in a constitutional condition which it will take some time to get back to the normal.

Two weeks ago I operated on a man 65 years of age for a tumor occupying the region of the gall bladder, which his age indicated was a probable carcinoma of the pylorus, but his clinical history, that of five years suffering from symptoms of gall stone, led me to believe it was a disease of the gall bladder. When the tumor was reached it was found to be a mass of tissue including the gall bladder and the adjacent liver structure within which was found an abscess in the liver tissue. A large stone was found at the junction of the cystic and common duct and a few small ones in the thickened and diseased gall bladder. A drain was placed both in the liver abscess and in the gall bladder proper. This patient is now able to sit up.

Yesterday morning I saw in an adjacent city a man 32 years of age who had been operated on the day previous for an appendiceal abscess by the local surgeon. This man had been sick with the present attack for over a week and had a history of two previous attacks of appendicitis well marked. When I saw him he had general peritonitis and though I have not heard today I hardly think he will survive. A timely operation would have saved him a week ago.

Three weeks ago I saw a man 74 years of age, who had been unable to eat anything and retain it for five days. He had a distinct tumor in the region of the pylorus and a history of unmistakable gastric symptoms for more than a year, with a progressive stomach irritability since December. He had all but starved to death. I saw him Saturday night and operated on him Sunday morning making a gastro-enterostomy. Since this time he has made great improvement, but of course will soon decline.

I report these cases merely as illustrative of the dangers and folly of delay. They could be supplemented by hundreds of others but are among a number that have come under my observation since I thought of preparing this paper.

What I have meant to do in this paper is merely to call the attention of the general practitioner to the fact that here are many diseases amenable to surgery in their early stages which are neglected or overlooked un-

til it is too late to get the best results, and to impress upon him that the advance of surgery is constantly increasing its usefulness with regard to these lesions, and at the same time to emphasize the fact that the more fully the physician familiarizes himself with the advantages that surgery offers, and the more promptly he determines in his own mind that the lesion which confronts him has a better prospect through surgery than through medicine, the more he will help in the progress of surgery and in the lessening of general mortality, and the endowment of suffering humanity.

ACUTE ALCOHOLISM.*

BY HUGH D. RODMAN, BARDSTOWN.

It is not my intention to go into the chronic effects of alcohol on the human system, nor to discuss the condition of our organs after a long continued drunk, which we usually call "Jim-Jams" more classically known as Delirium Tremens. I want to call your attention to the condition of the man who has kept himself keyed up to the point of drunkenness for three or four days. One who has kept himself wholly and entirely in a pathological or toxic condition for about that length of time by the constant drinking of whisky. I say toxic because I believe the whole system is under the influence of poison; there is a general toxæmia, which is brought about by the constant drinking of alcoholic liquor, generally whisky, in this section usually Bourbon, but where the liquor used is a rectified spirits or a blend, the results are worse; when the spree or drinking paroxysm is pushed to its limit, the whole human fabric is in a seriously poisoned condition and sudden deaths are not unusual. After excessive indulgence in alcohol there is a train of symptoms or a condition which is present in nearly all cases, viz.: flushed face, quickening of the pulse, and mental exhilarations followed by muttering and difficult speech, loss of co-ordination, vomiting, delirium, and now slow pulse, subnormal temperature, and sometimes coma, occasionally convulsions, or even sudden death.

During an acute debauch the local irritant effect of the alcohol is felt. There is, therefore, a toxic gastritis and an irritation of the hepatic cells which is often so intense as to alter their functions; there is also renal irritation which is shown by the condition of the conjunctiva, very heavily coated tongue, yellow skin, nausea, vomiting, distressing headache, gastric and hepatic tenderness, scanty highly colored albuminous urine. These, and

*Read before the Nelson County Medical Society.

many other pathological conditions go to make up the sum total of the condition in which we find a patient after a few days' debauch. We frequently see such cases wholly or apparently unconscious; we are then very likely to be deceived and misled in our diagnosis as we may confound this with injury to the brain or with the coma of apoplexy.

In the absence of any history whatever and even when we smell whisky on the breath it is difficult to decide the point to our entire satisfaction. If the tongue has been bitten or more especially if we have had incontinence of urine and feces it is likely a case of apoplexy. We should exclude injury by a thorough and complete examination of the whole body, and by the absence of any hemorrhage from the nose, ears or mouth. In irritation of the brain from a blow on the head we usually have restlessness, flexed extremities, cold surface, closed lids, contracted pupil, muttering, and grinding of the teeth. But in the alcoholic state our patient is unusually quiet, as if soundly sleeping—and will not arouse—in all appearances dead, except that respiration and circulation are slowly going on. In many of these cases there is a feigning of coma, as I said above, apparent unconsciousness. The patient will not arouse unless some unusual efforts are made. I remember a case a few years ago of a man who was on the roadside apparently dead, would not answer any kind of a call, showed no signs of life to the neighbors who were endeavoring to arouse him, until one of them found his bottle near by and remarked in a loud voice, "I will just break this bottle. He will get no more of it." This remark aroused him at once, and he exclaimed, "Oh, John, don't throw that bottle away!" I report this case to show that it is not always safe to make a positive diagnosis at first sight of these cases, nor without a thorough examination, lest we may do an innocent man an injustice and deprive an injured man of the proper treatment. It is, therefore, always necessary to adopt all the means at our disposal, and exert all our skill to arrive at a correct diagnosis, first be sure that we are right, then go ahead.

Treatment. The first indications for treatment is to get rid of all the alcohol in the body, and give *no more*; to relieve the portal circulation and the stomach; to soothe the kidneys and to support the nervous system. To meet the first of these indications a good sweat is beneficial, also an emetic is good, to produce emesis. I prefer the Apomorphine—it answers a double purpose. First—by its prompt emetic effect, by which we get rid of all toxic matter in the stomach; and secondly,

—by its anodyne effect from which we get a general soothing of the entire system, followed by a good sleep and a good sweat. If a diuretic is necessary I prefer the acetate of potash, which for me has been more effective, besides being a good diuretic its action on the kidneys is very soothing. To relieve the portal congestion there is nothing better than calomel, which I usually administer with soda and often combine a small amount of ipecac. But if at our first call we find the patient suffering from acute gastritis, and vomiting almost incessantly, we are up against a more serious proposition: this vomiting is sometimes very stubborn, and yields very slowly to treatment. This gastric relaxation is said by some authors to be so great at times that such remedies as cayenne pepper and other pungent and irritant spice have been recommended, but my reliance, and I have not had it to fail me, has been on large doses of bismuth subnitrate, accompanied by small doses of cocaine,—this has always acted well in my cases. I have said to get rid of the alcohol and give no more. I know that there is a popular sentiment with the laity and with many doctors, that the patient must have a little whisky to taper off on, as the expression goes. To meet this opinion I say, if you have a case of poisoning by arsenic you would not give *more* arsenic; or of strychnine poisoning, you would not give *more* strychnine. Why give more of the poison in alcoholic poisoning? I say don't give any more alcohol. Don't try to cure the bite with the hair of the dog. Treat your toxic condition in a rational way, remove all the poison you can and neutralize the remainder by the best antitoxes at hand—and treat the pathologic condition with the best known remedies, and be sure to give no alcohol and you will succeed in relieving all your cases promptly.

MALARIAL FEVER.*

C. W. ROGERS, RINEYVILLE.

Malaria. An infectious disease excited by the protozoan parasite or *Plasmodium malaria* and characterized splenic enlargements, fever with periodic intermissions or remissions, chills and anemia.

Etiology. Man becomes infected with malaria usually if not invariably through the bite of the mosquito of the genus type which serve as hosts for the parasite. The source from which the mosquito derives the parasite is man. The conditions predisposing to infection are those which favor mosquito life as high temperature, stagnated pools, marshes and swamps, rain barrels, etc. Males are more often affected than females because

*Read before Muldraugh Hill Medical Society.

they are more exposed. Malaria is more apt to be contracted at night because the mosquito is nocturnal.

Pathology. There are three forms of Malaria: (1) Tertian; (2) Quartan; (3) Estivo Autumnal. The Tertian variety is the type we most commonly come in contact with. The destruction of the red cells by the parasite is followed by anemia and pigmentation of the organs. The spleen becomes enlarged from congestion. In chronic cases (malarial cachexia) the spleen may become hard and tough from hyperplasia of the fibrous tissue which is sometimes followed by hemoglobinuria.

Clinical Varieties. Clinical varieties are (1) Intermittent; (2) Estivo Autumnal; (3) Pernicious; (4) Chronic malarial cachexia.

Intermittent malarial fever is excited by the tertian or quartan parasites. It is characterized by paroxysms of fever occurring at regular intervals or periods, each paroxysm consisting of a cold, a hot and a sweating stage.

The cold stage is characterized by lassitude, aching of the limbs and chilliness. The features are pinched, the lips are blue, the surface is cold and rough. The temperature may be slightly or considerably elevated varying from 101 to 105 or 106. Vomiting may also occur. The chill may last from a few minutes to an hour or more.

During the hot stage the surface temperature gradually rises, the skin becomes hot, the face flushed, the eyes injected, the pulse full and rapid and the temperature in the axilla may reach 106 or 107. The patient complains of severe pain in the head, back and limbs, also of intense thirst. The urine is usually scant and high colored. This stage may last from one to four or five hours.

In the sweating stage the fever gradually subsides, the pain grows less, free perspiration; the urine becomes more plentiful. Within an hour or two the attack is over and the patient falls into a refreshing sleep.

Remittent Fever. This form of malaria usually occurs late in the summer and fall. In the tropical countries where it often assumes a most severe form, it occurs at all seasons. The symptoms of remittent fever are the hot stage, which lasts twenty-four hours or longer, and the intermissions are very short. In many cases there is intermission but simply remissions. The chill and the sweat may be as severe as an intermittent fever but usually they are slight and of short duration. There is often slight jaundice. In some cases there is mild delirium making the condition resemble very closely typhoid fever. Prostration is very marked. The spleen is enlarged; the characteristic parasite is found

in the blood.

Pernicious malarial fever is not very common in this part of the country. It is more common in the tropical countries and it is hardly necessary to speak of it farther.

Diagnosis. The remittent fever very closely resembles typhoid fever. The latter may be recognized by marked abdominal symptoms, typical rash, widal reaction and the absence from the blood of hematozoon. There are a few other diseases which cause some difficulty in diagnosis as Yellow Fever, Hepatic Fever and Leukemia.

Prognosis. In simple intermittent forms the prognosis usually favorable. Remittent fever is more resistant but the outlook is favorable.

Treatment. Prophylactic measures include the extermination of the mosquitos. The most useful methods of suppressing mosquitos are the drainage of pools and swamps and the cultivation of damp soils; covering the surface of water with petroleum with free pools, from larvae for two or three weeks. Malarial patients should be screened in and avoid the sleeping in open air. Some recommend the use of quinine in small doses. Quinine is one of the few specifics which we have in our materia medica; it is specific in malaria. Some prefer small doses often repeated while others prefer one large dose to be taken five or six hours before the chill. When I use quinine to break malaria I aim to saturate my patient thoroughly before arousing the secretions. Apply thoroughly and keep him saturated until the paroxysm fail to appear. I then prescribe 21-5 grain doses of quinine; one dose to be taken every night at bedtime. I have invariably found this to completely rid my patients of the malady. When I have a patient who does not take quinine very well, I use some of the following: one part each of camphor gum ipecac and powdered opium to seven parts of potassium nitrate. Of this I give three capsules of five grains each; one every two hours; the last dose about two hours before chill time. Fifteen doses of this remedy is nearly always sufficient to break up an attack. Another is C. P. nitric acid made like this: nitric acid and aqua camphorae; one taken every two hours until twelve doses are taken. Then rest for twenty-four hours and repeat. This will break most any ordinary case of malaria. Another old remedy is Warburg's Tincture pushed to saturation and continued for a few days is usually sufficient. The remittent type is a little more stubborn to eradicate, which usually take a little larger doses and a little longer continued. I hope this will be thoroughly discussed and freely criticised.

DIET FOR THE SICK.*

By O. M. CRENSHAW, TAYLORSVILLE.

The question of dieting the sick has been the subject of much discussion, and at present is being given closer attention and more thoughtful and diligent study than ever before. It is doubtful if we are capable of writing a scientifically correct prescription for the diet of many, if any cases, or one which meets real needs of the patient. Can we even prescribe correct diet for an individual in health? It has not proven that we can. Witness the diverse consequence of food experiments, the contradictory conclusions drawn from similar experiments, the and even individual data. The popular magazines of today are loaded with articles on what we should eat. One is proving (to their own satisfaction) that our diet contains too much nitrogen, while another declares it contains too little. One says meat is a necessity while others are equally positive that meat is not only not a necessity, but positively harmful. Some aver that alcohol is a valuable food and tonic, while an opposer claims that it is not only devoid of food and tonic properties, but is a denutrient and absolute poison even in minute doses. One advises the avoidance of certain foods in certain climates, while many in that same climate declare that such avoidance is fatal to systemic resistance—is suicidal.

We must conclude then, that there is much to learn before we know how to feed, to nourish well, to sustain and maintain physiologic harmony and preserve approximately normal health. To diet, fast or feed, as the sick body requires or needs, is certainly no less difficult. It is reasonable to believe that a suitable diet means a great deal and is of vast importance, but, are we capable of formulating a plan of diet in an individual case best suited to the needs, conditions, ability to digest and appropriate is the question, and if so can we get the people in general practice to rigidly diet when advised?

The resistance in a given case being incompetent, micro-organisms are able to invade the body and gain a foothold, and we have a patient very sick of an acute disease. The body is weak, digestive capacity is deficient, and appropriating power is probably incompetent. Under these conditions, what is proper food? Can we determine? Could we prove it the right diet, even if it was? If the patient improved, gained strength, undesirable symptoms became less evident, and no digestive troubles ensued, we would conclude the diet suitable in great measure, which is

about all that we could say of it.

It has occurred to me in our present state of knowledge, that barring a perverted or acquired appetite, we have no better guide than the appetite itself. Personally, I do not believe it dangerous to consult the patient's desires, especially as to quality, if not quantity, except when they have been starved. Experience has not proven, nor indicated in the least that the appetite should be ignored, but usually safely interrogated and advised with. The patient is sick and needs not only to maintain the little resistance left, but improve it. Necessarily, he must be fed; but, again, how? It has always appeared paramount to an harmonious whole, or perfect result, to begin right. If not begun right, how can the result be right, unless gone over again and made right? And if this be impossible we must make the best of it as it is. Experience has shown no reason to disturb the long held opinion that the natural appetite is the most trustworthy guide to the needs of the system, and possibly too, as to what will be most satisfactorily digested, barring disease of the digestive apparatus. Of course the products of digestion of some foods may be undesirable and may need to be prohibited, notwithstanding, this would not necessarily indicate that the body did not need that particular nourishment. It would be impossible for me to lay down a fixed diet of milk, or anything else and feel capable of saying or knowing that it was practically appropriate, and thereby all needs best ministered to and the body energy best conserved. Nothing could be farther from what I believe a diet should be than milk, if the patient does not like milk. Consider for a moment the fact that the carnivora have no desire for a vegetable diet so far as we are aware, while the herbivora live upon it exclusively and in man there is a natural craving for it, but generally does not care to live exclusively upon it. In these desires of appetite I take it, are indicated the needs of what will supply the needs of each class of animals respectively.

Logically, the appetite of the patient should be consulted as to kind and quality of food, though it may not be allowed to dictate as to amount. The first appreciable effort of the whole digestive apparatus is an increased flow of saliva. When a desirable article of food is brought in sight—and sometimes the mere mention of it causes an increased flow of saliva—the mouth waters. Thus, preparation is made to rightly initiate the digestive process. And if it does not mean "well begun is half completed" it does mean something important. Even in acute illness where the secretions are dried up or limited, digestion

*Read before the Spencer County Medical Society.

would certainly be hesitatingly performed, if performed at all, when given food not desired, loathed and disliked to almost the preclusion of deglutition; while desirable or desired food would probably tickle the palate to needed flow of saliva adequately initiating digestion.

In typhoid fever, the diet of which has been thrashed out and fought over time and again, if I have charge of the patient from the first it is not uncommon to allow the appetite to dictate both as to kind and quantity. But not so if they have been starved for one or two weeks.

I do not mean that in the management of these cases I would have all sorts of food stuffs displayed before them till they might fancy an appetite existed for some of the exhibited articles; nor would I have some one sit by and insistently inquire of the patient if he did not want this, or if he could not eat that; nor how would you like something else; but allow the patient to suggest or if he did not call for anything, give him what was not disliked.

When the body is brought down with disease, especially febrile disease, complete perfect digestion may not be possible, but desired articles of food would certainly be better handled and leave a less imperfect digestion and the condition of the intestinal contents would be less conducive to bacterial development, than when undesired or disliked food was given.

In a nutshell, the desired article of food will most probably, even during prehension, prepare the digestive function for its reception; an increased flow of saliva takes place, insuring from the very first effort the proper initiation of digestion, which certainly presages its most perfect completion. Then the residue and undesirable products may be more readily eliminated and the intestinal contents better controlled with an appropriate antiseptic. It is my opinion and experience, that patients fed as intimated maintain a more adequate nutrition, and convalescence and early recuperation are more promptly and unhesitatingly brought about.

Method of Determining the Pressure in Superficial Veins.—This article gives an illustrated description of a method by which communication is established through a cannula between a manometer and the blood in the median vein. Moritz and Tabora have applied this phlebotonometer about 300 times during the last eight months and on 100 patients, and describe the findings in normal and pathologic conditions. In some cases they kept up the examination for over an hour; they regard the technique as entirely harmless with ordinary precautions.

OFFICIAL ANNOUNCEMENTS.

THE NEW ABORTION LAW.

An Act defining the crime of abortion and prescribing a penalty therefor.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

1. It shall be unlawful for any person to prescribe or administer to any pregnant woman, or to any woman whom he has reason to believe pregnant, at any time during the period of gestation, any drug, medicine, or substance, whatsoever, with the intent thereby to procure the miscarriage of such woman, or with like intent, to use any instrument or means whatsoever, unless such miscarriage is necessary to preserve life; and any person so offending shall be punished by a fine of not less than five hundred nor more than one thousand dollars, and imprisoned in the State prison for not less than one nor more than ten years.

2. If by reason of any of the acts described in Section 1 hereof, the miscarriage of such woman is procured, and she does miscarry, causing the death of the unborn child, whether before or after quickening time, the person so offending shall be guilty of a felony, and confined in the penitentiary for not less than two, nor more than twenty-one years.

3. If, by reason of the commission of any of the acts described in Section 1 hereof, the woman to whom such drug or substance has been administered, or upon whom such instrument has been used, shall die, the person offending shall be punished as now prescribed by law, for the offense of murder or manslaughter, as the facts may justify.

4. The consent of the woman to the performance of the operation or the administering of the medicines or substances, referred to, shall be no defense, and she shall be a competent witness in any prosecution under this act, and for that purpose she shall not be considered an accomplice.

5. This act shall take effect from and after its passage.

THE NEW VITAL STATISTICS BILL.

AN ACT to establish a Bureau of Vital Statistics and to provide for the immediate registration of all births and deaths throughout the State of Kentucky by means of certificates of births and deaths, and burial or removal permits; requiring prompt returns to the Bureau of Vital Statistics, as required to be established by the State Board of Health; to provide for the reporting of morbidity statistics; and to insure the thorough organization and

efficiency of the registration of vital statistics throughout the State, and providing certain penalties.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

1. That it shall be the duty of the State Board of Health to have charge of the State system of registration of births and deaths; to prepare the necessary methods, forms and blanks for obtaining and preserving such records and to insure the faithful registration of the same, in towns, cities, counties, and in the Bureau of Vital Statistics. The said Board shall be charged with the uniform and thorough enforcement of the law throughout the State, and shall, from time to time, recommend any additional forms and amendments that may be necessary for this purpose.

That the State Board of Health shall have general supervision over the Bureau of Vital Statistics, which is hereby authorized to be established by said Board, and which shall be under the immediate direction of the State Registrar of Vital Statistics, whom the State Board of Health shall appoint within thirty days after the taking effect of this law, and who shall be a competent vital statistician. The term of appointment of State Registrar of Vital Statistics shall be four years, beginning with the first day of January of the year in which this act shall take effect, and any vacancy occurring in the office of State Registrar of Vital Statistics shall be filled by appointment of the State Board of Health. The State Registrar of Vital Statistics shall receive an annual salary not to exceed twenty-five hundred dollars, which sum shall be paid by the State Board of Health out of the annual allowance made to it by the State. The State Board of Health shall provide for such clerical and other assistance as may be necessary for the purposes of this act, and may fix the compensation of persons thus employed, within the amount appropriated for said Board by the Legislature. Suitable apartments shall be provided for the State Board of Vital Statistics which shall be properly equipped with fire-proof vault and filing cases for the permanent and safe preservation of all official records made and returned under this act. The State Registrar shall file duplicates of all returns made to him from each county with the county clerk thereof upon notice that a fire proof vault and filing cases for their permanent preservation have been provided by the fiscal officials of such county.

That for the purposes of this Act the State shall be divided into registration districts as follows: Each city and incorporated town shall constitute a primary registration dis-

trict; and for that portion of each county outside of the cities and incorporated towns therein, the State Board of Health shall define and designate the boundaries of a sufficient number of rural registration districts, which it may change from time to time as may be necessary for convenience and completeness of registration.

4. That within ninety days after the taking effect of this act, or as soon thereafter as possible, the State Board of Health shall appoint a local registrar of vital statistics for each registration district in the State, excepting such cities or towns as are otherwise provided for. The term of office of local registrars, appointed by said Board, shall be for four years, beginning with the first day of January of the year in which this act shall take effect, and their successors shall be appointed at least ten days before the expiration of their terms of office.

Any local registrar, appointed by said Board, who fails or neglects to efficiently discharge the duties of his office as laid down in this act, or who fails to make prompt and complete returns of births and deaths, as required hereby, shall be forthwith removed from his office by the State Board of Health, and his successor appointed, in addition to any other penalties that may be imposed, under other sections of this act, for failure or neglect to perform his duty.

Each local registrar, appointed by said Board, shall, immediately upon his acceptance of appointment as such, appoint a deputy, whose duty it shall be to act in his stead in case of absence, illness or disability, and who shall accept such an appointment, in writing, which shall be filed in the office of the State Registrar, and who shall be subject to all rules and regulations governing the actions of local registrars: Provided, That in cities or towns where health officers, or secretaries of local boards of health, or other officials, at the date of this act, are officiating as registrars of births and deaths under local ordinances to the satisfaction of the State Registrar, such officers shall be continued as registrars in and for such cities or towns, but shall be subject to the rules and regulations of the State Board of Health, and to all the provisions of this act.

5. That the body of any person whose death occurs in the State shall not be interred, deposited in a vault or tomb, cremated or otherwise disposed of, or removed from or into any registration district, until a permit for burial, removal or other disposition shall have been properly issued by the registrar of the registration district in which the death occurs. And no such burial or removal permit shall be issued by any registrar

until a complete and satisfactory certificate and return of the death has been filed with him as hereinafter provided: Provided, That a transit permit issued in accordance with the law and health regulations of the place where the death occurred, whether in Kentucky or outside of the State, may be accepted by the local registrar of the district where the body is to be interred or otherwise finally disposed of, as a basis upon which he shall issue a local burial permit, in the same way as if the death occurred in his district, but shall plainly enter on the face of the copy of the record which he shall make for return to the State Registrar the fact that it was a body shipped in for interment, and give the actual place of death. But when a body is removed from a district in Kentucky to an adjacent or nearby district for interment, the registrar's removal permit from the district where death occurred may be accepted as authority for burial.

6. That stillborn children, or those dead at birth shall be registered as births and also as deaths, and a certificate of both the birth and the death shall be filed with the local registrar, in the usual form and manner, the certificate of birth to contain, in place of the name of the child, the word, "stillbirth." The medical certificate of the cause of death shall be signed by the attending physician, if any; and shall state the cause of death as "stillborn," with the cause of the stillbirth if known; whether a premature birth, and, if born prematurely, the period of uterogestation, in months if known; and a burial or removal permit in usual form shall be required.

7. That the certificate of death shall be the standard form adopted by the United States Census Bureau for the collection of mortality statistics.

The personal and statistical particulars shall be authenticated by the signature of the informant, who may be any competent person acquainted with the facts.

The statement of facts relating to the disposition of the body, shall be signed by the undertaker, or person acting as such.

The medical certificate shall be made and signed by the physician, if any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which death occurred. And he shall further state the cause of death, so as to show the course of disease or sequence of causes resulting in death, giving the primary cause, and also the contributory causes, if any, and the duration of each. Indefinite and unsatisfactory terms, indicating only symptoms of disease or conditions resulting from disease, will not be held sufficient for issuing a burial

or removal permit; and any certificate not containing such terms as defined by the State Registrar shall be returned to the physician for correction and definition. Causes of death, which may be the result of either disease or violence, shall be carefully defined; and, if from violence, its nature shall be stated and whether (probably) accidental, suicidal, or homicidal. And in case of deaths in hospitals, institutions, or away from home, the physician shall furnish the information required under this head, and shall state where, in his opinion, the disease was contracted.

8. That in case of any death occurring without a physician in attendance, it shall be the duty of the undertaker to notify the registrar of such death, and when so notified the registrar shall inform the local health officer, and refer the case to him for immediate investigation and certification, prior to issuing the permit: Provided, That if the circumstances of the case render it probable that the death was caused by unlawful or suspicious means, the registrar shall then refer the case to the coroner for his investigation and certification. And any coroner whose duty it is to hold an inquest on the body of any deceased person, and to make the certificate of death required for a burial permit, shall state in his certificate the nature of the disease, or the manner of death; and, if from external causes of violence, whether (probably) accidental, suicidal or homicidal, and shall, in either case, furnish such information as may be required by the State Registrar to properly classify the death.

9. That the undertaker, or person acting as undertaker, shall be responsible for obtaining and filing the certificate of death with the registrar, and securing a burial or removal permit, prior to any disposition of the body. He shall obtain the personal and statistical particulars required from the person best qualified to supply them, over the signature and address of his informant. He shall then present the certificate to the attending physician, if any, or to the health officer or coroner, as directed by the registrar, for the medical certificate of the cause of death and other particulars necessary to complete the record, as specified in section eight. And he shall then state the facts required relative to the date and place of burial, over his signature and with his address, and present the completed certificate to the registrar within the time limit, if any, designated by the local board of health for the issuance of a burial or removal permit. The undertaker shall deliver the burial permit to the sexton, or person in charge of the place of burial, before interring the body; or

shall attach the transit permit, containing the registrar's removal permit, to the box containing the corpse, when shipped by any transportation company; said permit to accompany the corpse to its destination, where, if within the State of Kentucky, it shall be taken up by the local registrar of the district in which interment is made, who shall issue a burial permit thereon.

10. That if the interment, or other disposition of the body, is to be made within the State, the wording of the burial permit may be limited to a statement by the registrar, and over his signature, that a satisfactory certificate of death having been filed with him, as required by law, permission is granted to inter, remove, or otherwise dispose of the deceased; stating the name, age, sex, cause of death, and other necessary details upon the form prescribed by the State Registrar.

11. That no sexton, or person in charge of any premises in which interments are made, or the owner of premises containing a private cemetery, shall inter, or permit the interment or other disposition of any body, unless it is accompanied by a burial, removal or transit permit, as herein provided. And each sexton, or person in charge of any burial-ground, or the owner of premises containing a private cemetery, shall indorse upon the permit the date of interment, over his signature, and shall return all permits so indorsed to the local registrar of his district, within ten days from the date of interment, or within the time fixed by the local board of health. He shall also keep a record of all interments made in the premises under his charge, stating the name of the deceased person, place of death, date of burial, and name and address of the undertaker; which record shall at all times be open to public inspection.

12. That all births that occur in the State shall be immediately registered in the districts in which they occur, as hereinafter provided.

13. That it shall be the duty of the attending physician or midwife to file a certificate of birth properly and completely filled out, giving all the particulars required by this act, with the local registrar of the district in which the birth occurred, within ten days after the date of birth. And if there be no attending physician or midwife, then it shall be the duty of the father or mother of the child; householder or owner of the premises, manager or superintendent of public or private institution, in which the birth occurred, to notify the local registrar, within ten days after birth, of the fact of such a birth having occurred. It shall then, in such

case, be the duty of the local registrar to secure the necessary information and signature to make a proper certificate of birth.

14. That the certificate of birth shall be the standard form adopted by the United States Census Bureau.

This certificate shall be signed by the attending physician or midwife, with date of signature and address; if there be no physician or midwife in attendance, then the father or mother of the child, householder or owner of the premises, or manager or superintendent of public or private institution, whose duty it shall become to notify the local registrar of such a birth, as required by section thirteen of this act. All certificates, either of birth or death shall be written legibly in unfading ink; and no certificate shall be held to be complete and correct that does not supply all the items of information called for therein, or satisfactorily account for their omission.

16. That every physician, midwife, and undertaker shall, without delay, register his or her name, address and occupation, with the local registrar of the district in which he or she resides or may hereafter establish a residence; and shall thereupon be supplied by the local registrar with a copy of this act, together with such rules and regulations as may be prepared by the State Registrar relative to its enforcement. Within thirty days after the close of each calendar year, each local registrar shall make a return to the State Registrar of all physicians and midwives who have been registered in his district during the whole or any part of the preceding calendar year: Provided, That no fee or other compensation shall be charged by local registrars to physicians, midwives or undertakers for registering their names under this section, or making returns thereof to the State Registrar.

17. That all superintendents or managers or other persons in charge of hospitals, almshouses, lying-in or other institutions, public or private, to which persons resort for treatment of diseases, confinement, or are committed by process of law, are hereby required to make a record of all of the personal and statistical particulars relative to the inmate in their institutions, at the date of approval of this act, that are required in the form of the certificate provided for by this act, as directed by the State Registrar; and thereafter such record shall be by them made for all future inmates at the time of their admission, for medical treatment of disease, the And in case of persons admitted or committed by a physician in charge shall specify, for entry in the record, the name of the disease, and where, in his opinion, it was contracted. The

personal particulars and information required by this section shall be obtained from the individual himself, if it is practicable to do so; and when they cannot be obtained, they shall be secured in as complete a manner as possible from the relatives, friends, attending physicians and midwives.

18. That the State Board of Health shall prepare, print and supply to all registrars suitable blanks and forms used in registering, recording and preserving the returns or in otherwise carrying out the purposes of this act; and shall prepare and issue such detailed instructions as may be required to secure the uniform observance of its provisions and the maintenance of a perfect system of registration. And no other blanks shall be used than those supplied by the State Board of Health. The State Registrar shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory, he shall require such further information to be furnished as may be necessary to make the record complete and satisfactory. And all physicians, midwives, or undertakers, connected with any case, are hereby required to furnish such information as they may possess regarding any birth or death, upon demand of the State Registrar in person, by mail, or through the local registrar. He shall, further, arrange, bind, and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive and continuous card-index of all births, sickness and deaths registered; the cards to show the name of child, deceased, place and date of birth, sickness or death, number of certificate, and the volume in which it is contained. He shall inform all registrars what diseases are to be considered as infectious, contagious, or communicable and dangerous to the public health, as decided by the State Board of Health, in order that, when sickness and deaths occur from such diseases, proper precautions may be taken to prevent the spreading of dangerous diseases.

19. That it shall be the duty of the local registrar to supply blank forms of certificates to such persons as require them. And he shall carefully examine each certificate of birth or death when presented for record, to see that it has been made out in accordance with the provisions of this act and the instructions of the State Registrar and if any certificate of death is incomplete or unsatisfactory; it shall be his duty to call attention to the defects in the return, and to withhold issuing the burial or removal permit until they are corrected. If the certificate of death is properly executed and complete, he

shall then issue a burial or removal permit to the undertaker: Provided, That in case the death occurred from some disease that is held by the State Board of Health to be infectious, contagious, or communicable and dangerous to the public health, no permit for the removal or other disposition of the body shall be granted by the registrar, except under such conditions as may be prescribed by the state and local boards of health. If a certificate of birth is incomplete, he shall immediately notify the informant, and require him to supply the missing items if they can be obtained. He shall then number consecutively the certificates of birth and of death, in two separate series, beginning with "number one" for the first birth and the first death in each calendar year, and sign his name as registrar in attest of the date of filing in his office. He shall also make a complete and accurate copy of each birth and death certificate registered by him, upon a form identical with the original certificate, to be filed and permanently preserved in his office as the local record of such death, in such manner as directed by the State Registrar. And he shall, on the tenth day of each month, transmit to the State Registrar all original certificates registered by him during the preceding month. And if no births or no deaths occurred in any month, he shall, on the tenth day of the following month, report that fact to the State Registrar, on a card provided for this purpose.

20. That each local registrar, physician or registered midwife shall be entitled to be paid the sum of twenty-five cents respectively for each birth and each death certificate properly and completely made out and registered with or reported by him, and correctly copied and duly returned to the State Registrar, as required by this act. And in case no births or no deaths were registered during any month, the local registrar shall be entitled to be paid the sum of twenty-five cents for each report, to that effect, promptly made in accordance with this act. All amounts payable to registrars, physicians or midwives under provisions of this section shall be paid by the treasurer of the county in which the registration districts are located, upon certification by the State Registrar. And the State Registrar shall annually certify to the treasurers of the several counties the number of births and deaths registered, with the names of the local registrars, and the amounts due each at the rates fixed herein.

21. That the State Registrar shall, upon request, furnish any applicant a certified copy of the record of any birth, sickness or death registered under provisions of this act, for the

making and certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a birth, sickness, or death, when properly certified by the State Registrar to be a true copy thereof, shall be *prima facie* evidence in all courts and places of the facts therein stated. For any search of the files and records when no certificate copy is made, the State Registrar shall be entitled to a fee of fifty cents for each hour or fractional hour of time of search, to be paid by the applicant. And the State Registrar shall keep a true and correct account of all fees by him received under these provisions, and turn the same over to the State Treasurer: Provided, That in cities of the first class, certified copies of any birth or death may be furnished by the local health authorities. The fee for such copy or search of record to be the same as herein provided, and all such fees shall be paid into the treasurer of said cities.

22. That if any physician, who was in medical attendance upon any deceased person at the time of death shall neglect or refuse to make out and deliver to the undertaker or sexton, or other person in charge of the interment, removal, or other disposition of the body, upon request, the medical certificate of cause of death, hereinbefore provided for, he shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars. And if any physician shall knowingly make a false certification of the cause of death, in any case, he shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than fifty dollars nor more than two hundred dollars.

And any physician or midwife, in attendance upon a case of confinement, or any other person charged with responsibility for reporting births, in the order named in section thirteen of this act, who shall neglect or refuse to file a proper certificate of birth with the local registrar, within the time required by this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars.

And if any undertaker, sexton, or other person acting as undertaker, shall inter, remove, or otherwise dispose of, the body of any deceased person, without having received a burial or removal permit as herein provided, he shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than twenty dollars nor more than one hundred dollars.

And any registrar, deputy registrar, or sub-registrar who shall neglect or fail to en-

force the provisions of this act in his district, or shall neglect or refuse to perform any of the duties imposed upon him by this act or by the instructions and directions of the State Registrar, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than ten dollars nor more than one hundred dollars.

And any person who shall willfully altar any certificates of birth or death, or the copy of any certificate of birth or death, on file in the office of the local registrar, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than ten dollars nor more than one hundred dollars, or be imprisoned in the county jail not exceeding sixty days, or suffer both fine and imprisonment, in the discretion of the court.

And any other person or persons who shall violate any of the provisions of this act, or shall willfully neglect or refuse to perform any duties imposed upon them by the provisions of this act, or shall furnish false information to a physician, undertaker, midwife, or informant, for the purpose of making incorrect certification of births or deaths, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than one hundred dollars.

And any transportation company or common carrier transporting or carrying, or accepting through its agents or employes for transportation or carriage, the body of any deceased person, without an accompanying permit issued in accordance with the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than fifty dollars nor more than two hundred dollars: Provided, That in case the death occurred outside of the State, and the body is accompanied by a certificate of death, burial or removal or transit permit issued in accordance with the law or board of health regulations in force where the death occurred, such death certificate, burial or removal or transit permit, may be held to authorize the transportation or carriage of the body into or through the State.

23. That local registrars are hereby charged with the strict and thorough enforcement of the provisions of this act in their districts, under the supervision and direction of the State Registrar. And they shall make an immediate report to the State Registrar of any violations of this law, coming to their notice by observation or upon complaint of any person, or otherwise. The State Registrar is hereby charged with the thorough and efficient execution of the provisions of this

act in every part of the State, and with supervisory power over local registrars, to the end that all of the requirements shall be uniformly complied with. He shall have authority to investigate cases of irregularity or violation of law, personally or by accredited representative, and all registrars shall aid him, upon request, in such investigations. When he shall deem it necessary, he shall report cases of violation of any of the provisions of this act to the prosecuting attorney or official of the proper county or municipality, with a statement of the facts and circumstances; and when any such case is reported to them by the State Registrar, all prosecuting attorneys or officials acting in such capacity shall forthwith initiate and promptly follow up the necessary court proceedings against the parties responsible for the alleged violations of law. And upon request of the State Registrar, the District Attorney shall likewise assist in the enforcement of the provisions of this act.

24. For the purposes of this act, and all other matters, the confidential relations and communications between physician and patient are placed upon the same basis as those provided by law between attorney and client, and nothing in this act shall be so construed as to require any such privileged communication to be disclosed.

through this JOURNAL.

25. That Chapter 83, Kentucky Statutes, and all other laws and parts of laws inconsistent with the provisions of this act are hereby repealed.

THE FORUM.

To the Editor:

A gentleman of means, has a member of his family afflicted with Progressive Muscular Atrophy, the diagnosis having been with certainty established after consultation with some of the highest neurological authorities of New York City and various cities of Europe.

These physicians are unanimously of the opinion that the case is incurable, inasmuch as up to the present, there has been published no form of treatment or medication which is known to have positively cured or arrested the inroads of this malady.

This gentleman wishes to spare no effort to bring relief. He believes that perhaps somewhere, some physician may have successfully hit upon some method of curing a case of Progressive Muscular Atrophy, but who through his inability to corroborate his results, owing to rarity of cases or through modesty, or for fear of being discredited, has failed to publish his case. This gentleman's

idea, is to try and bring this record to the surface by making an appeal to the profession through this journal.

The case itself presents the characteristic picture and is typical of Progressive Muscular Atrophy in every particular. The patient is fifty years old; married; in excellent general health. About one and one-half years ago, the disease made its appearance in the left hand, progressed, and within a few months, involved the right hand. Its progress since has been very slow. The family of this patient wishes to announce that any physician who supplies a complete history and detailed description of the method of treatment of any case of Progressive Muscular Atrophy he may have successfully treated, the trial of which leads to the cure or arrest of the disease in their relative, will be rewarded by a liberal cash prize.

Requests for further particulars and replies should be addressed to "Enquirer," care of this JOURNAL.

To the Secretary of Each State and County Medical Society and Other Interested Members:

At the last meeting of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted: "The Committee recommends that the President of this Association appoint a committee of five members to inquire into the desirability and practicability of the establishing under the auspices of the American Medical Association of a fund for the assistance of physicians disabled by sickness and for a sanatorium for the treatment of such members of the Association, as may be afflicted with tuberculosis or similar diseases; such Committee to report to the House of Delegates at the next annual meeting of the Association."

As a basis for wise action the Committee urges that the officers of State and County Medical Societies and others interested in the subject, should at the earliest possible date, forward to the Secretary of the Committee, Dr. A. C. Magruder, Colorado Springs, Colorado, answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your State Medical Society, or local society, for the care of destitute and disabled physicians and those dependant upon them? If so, how is such care provided?

2. What number of instances of special need for such assistance or sanatorium treatment have arisen in your locality within the

last five years, and what number of your members need such assistance now?

3. About how many members of your County Medical Society are at present afflicted with tuberculosis or similar diseases; or have, within the last five years died, or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each County and State society at its next regular meeting, and that the desired information be furnished our Committee at the earliest possible date.

Fraternally yours,

EDWARD JACKSON, Denver, Colorado.

JEFFERSON R. KEAN, Washington, D. C.

A. T. BRISTOW, Brooklyn, N. Y.

H. B. ELLIS, Los Angeles, California.

A. C. MAGRUDER, Seecrtray, 305 N. Tejon St., Colorado Springs, Colorado.

To the Editor:

After reading this no doubt some of our profession will say old man Grump has left the baseball field and joined the medical profession, but be that as it may, I am going to say it, and leave it to a jury of the entire medical profession, to bring in a verdict. I am no specialist, but am the *so-called* family physician, and have been in the harness since eighteen hundred and seventy-four. My time to step out is not far off, but when it does come, am proud to be able to say in my farewell address, that I never mistreated or took undue advantage of a fellow physician, no matter whether I liked or disliked him, and no matter whether the physician in charge was discharged, or discharged himself, after consulting with him, I never took his case. but this has not always been the case with the other fellow after consulting with me. My great complaint is fernist the specialist, the fellow that dubs himself a surgeon and practices everything. Some time ago I called in one of our able surgeons, to see a little girl that required surgical attention and whilst there the uncle, aunt and several of the family were in attendance. The surgeon performed a delicate and skilful operation, and no doubt won the admiration of those present. Soon after, this uncle was taken sick with pneumonia, and Mr. Surgeon was called in, took charge and robbed me of my patient. Has Mr. Grump a reason to wield his hammer? On another occasion I called in a surgeon from Cincinnati to amputate a limb, patient suffering from senile gangrene. This patient had never met the surgeon before. The case did nicely, and in due time another party of the family needed surgical attention, and without consulting me went directly

to the surgeon's office, who called on the patient, made the operation at her home, and I would never have known a thing about it, if I had not met him as he was coming from the patient's house a few days afterward. When he saw me he looked like a sheep stealing dog, and stammered some excuse that didn't go with me, and since then twenty-three for him. Do you think I owe him a compliment and because of skilful work should call him in consultation again? I can show you many such instances. The specialists seem to have no code of ethics. This complaint is not general, certainly not. I have many friends who are specialists, who could not be induced to visit the patient without the family physician being present, who would utterly refuse to visit any part of the family before consulting with the man that introduced him into the family, but unfortunately the greed for gold robs many able men of the grandness of character that lives after him, when he is no more "the golden rule." Am I unreasonable fellow practitioner in my complaint?

Fraternally yours,

J. A. AVERDICK.

To the Editor:

In my article on "La Grippe" in THE JOURNAL of April 1st, the printer made me prescribe a regular horse dose by using the ounce symbol instead of the dram symbol, as I had written in my paper. In every place that the ounce appears in the paper it should be printed dram. Thanking you in advance for noting this correction.

J. ERNEST FOX.

COUNTY SOCIETY REPORTS.

Barren.—The Barren County Medical Society met at Glasgow March 8, W. T. Britt presiding. Minutes of last meeting read and adopted.

T. F. Miller reported case of Goiter of four years duration, which condition was complicated by a floating kidney. The consensus of opinion was that the Goiter was of the Exophthalmic type. However no Exophthalmos has yet developed.

A. T. Botts read a paper on "Vomiting of Pregnancy." The essay dealt with the subject in an eloquent and masterly way, which elicited much interest and discussion from the Society.

R. S. Plumlee related case where woman at the end of 6½ months pregnancy began vomiting and vomited incessantly for 36 hours, then began having convulsions. Premature labor was induced, and the patient placed upon buttermilk, cream of tartar and Basham's Mixture. The child lived six days and the patient made an un-

eventful recovery.

C. L. Venable thought the greatest help to prevent or stop vomiting was the use of an elastic abdominal binder.

R. E. Garnett saw an apparently hopeless case recover spontaneously.

J. M. Taylor considers the condition due to pressure upon the thin cervix and advocates raising of the womb.

J. B. White has had good results by raising the uterus and tampons of hoglycerine.

W. T. Britt suggested use of Chloretone as the most serviceable of our legion of remedies.

G. T. Botts in closing, related case he had seen where the pregnancy was complicated by Hydatid mole and pelvic abscess, where the vomiting persisted for six days after the induction of labor.

J. B. White asked, were twins of same sex products of same conception, and related two instances which came under his observation. In the first the woman miscarried and four months later gave birth to a full term child, both of same sex. In the second he delivered a colored woman of one black child and one white one, both of same sex. The white child so resembled its paternal parent he at once recognized the father of it (?); the father of the black child is still a mystery to Dr. White.

A. T. Botts thought if the woman was of mixed blood she could of her own accord produce different colored progeny.

Adjourned to meet April 12.

T. F. MILLER Secretary.

Carlisle.—The Carlisle County Medical Association met in regular quarterly session March 1st, at Arlington, in the office of W. Z. Jackson. The President, J. R. Owen, called the meeting to order at 10:00 o'clock A. M. Divine invocation by Dr. R. T. Hocker. Minutes of previous meeting read. Committee on Arrangements reported that dinner would be served at the Hotel Victor. The scientific program was then taken up.

G. W. Payne and **H. A. Gilliam** were down for papers on Gastric Ulcer and Gall Stone Colic. Both of them being absent, the papers were passed without discussion.

T. J. Marshall read a very able and scientific paper on Chole-cystitis and its treatment. Besides naming the usual drugs and dietetics given for treatment he referred to the drainage of the gall bladder, which was being done so frequently of late, many surgeons claiming it to be the ideal and only sure cure.

W. Z. Jackson opened the discussion, referred to the etiology and the infectious theory advanced as its true cause. He reported two cases which were apparently cured by administering for several weeks the following combination: R Soda Glyco-choilate 1½ drachms, Acid Sal-

icylic grs. xxx.; Ext. Cascara grs. xxx.; Menthol grs. IV., M. Div. in capsules No. xxx. Sig. One before meals.

The paper was freely discussed by all present. It seemed that the remedies most relied upon were Calomel, Phosphate, Sodium, Sulphate of Sodium, Succinate of Sodium, and the mineral acids along with proper diet.

Adjourned for Dinner.

Re-opened at 1:00 o'clock P. M. when J. M. Peek conducted a quiz on Acute Pancreatitis in all of its forms. His questions brought out a pretty thorough analysis of the disease. Several of the members suggested that the diseases of the pancreas were not sufficiently investigated by the general practitioner.

R. T. Hocker then gave an exhaustive and classical quiz on Chronic Diarrhea in which some of us learned some valuable pointers in treatment of same.

W. Z. Jackson came next quizzing in regular post-graduate style on Chronic Gastric Catarrh. This disease was made so plain that any of us can diagnose it and can cure many cases of it, if they will only follow directions and swallow the stomach tube often enough. This ended the day's program and the absent members missed one of the most instructive meetings that this Society ever held.

R. T. Hocker, Mosby and Gholson were appointed Committee of Necrology. W. E. Gholson was appointed Committee on Arrangements for the next meeting, which takes place at Kirhyton, May 31st, 1910. The society then adjourned.

H. T. CROUCH, Secretary.

Christian.—The Christian County Medical Society met promptly at 10 A. M. Present Bell, Keith, Lackey, Southall, Lacey, Wright, Backus, Edwards, Young, Harned, Beasley, Erkiletian, Sandback, Gates, Barker, Woosley, Magraw, Sargent and Rice.

W. A. Lackey read a paper reporting an epidemic of dysentery which occurred at the Western Kentucky Asylum while he was resident physician there. He emphasized the Ipecac treatment, which seems to have been very successful. The paper was discussed quite freely and was much enjoyed.

J. E. Stone was not able to be present, but his paper was in the hands of the Secretary and was read. The paper showed the latest advancements in the treatment of Pneumonia, and the discussion which followed showed the appreciation with which it was received. On motion of Bell all the doctors who had heretofore been members of this society are to be reinstated upon payment of dues for current year. No further business, the Society adjourned at 12 M.

J. H. RICE, Secretary.

Christian.—The Christian County Medical Society met at 10:30 A. M. in the City Court room with President Candle in the chair. Present, Candle, Southall, Bell, Magraw, Keith, Lacy, Wright, Laekey, Harned, Anderson, Erkiletian, Stites, Young, Backus and Rice. The minutes of the February meeting were read and adopted.

Austin Bell then read a paper upon Catarrhal Pneumonia, which was discussed at length and was highly complimented.

D. H. Erkiletian then read his paper upon the "Etiology, Diagnosis and Treatment of Rachitis." The paper was well gotten up and was appreciated. The essayist thinks many cases of Rickets are overlooked altogether. No further business, the Society adjourned at 12 M.

J. H. RICE, Secretary.

Cumberland.—The Cumberland County Medical Society met in the office of W. C. and Oscar Keen, on its regular meeting day, March 9th, 1910, and elected R. L. Richardson, of Waterview, as its President, taking the place of H. L. Cartwright, who died of paralysis on February 18th, 1910. A committee having been appointed to draft resolutions on the death of its member, H. L. Cartwright, reports the following:

Be it Resolved by the Cumberland County Medical Society, that by the death of Dr. Cartwright, this society loses one of its most active members and one of the best general practitioners in this section of the State. Dr. Cartwright was born in Adair County in 1848, graduated from the Medical Department of the University of Louisville in 1878; however, he began the practice of medicine at the early age of 18 years, which was some years before his graduation. He practiced his profession at Breeding, Marrowbone, Junction City and Burkesville, his last eight years being spent at Burkesville, where he had an extensive practice. Dr. Cartwright was a devoted member of the Christian Church, having affiliated himself with that denomination at an early age. The Cumberland County Medical Society together with his many friends in Burkesville and elsewhere deeply regret the loss of its member.

That a copy of these resolutions be published in the **Journal** and same be spread upon our records and a copy sent to the family of the deceased.

OSCAR KEEN, Secretary.

Carroll.—The Carroll County Medical Society met in regular session at Carrollton April 12, W. S. Golden presiding in the chair.

Allen Donaldson presented an interesting clinical case, an old lady, age 65, tumor in lower right hypochondriac and upper lumbar regions. There was a difference of opinion as to whether it was a malignant or a benign.

W. B. Messink read a practical and interest-

ing paper on the diagnose of typhoid fever. Paper was discussed at length by all present.

On motion the Secretary was directed to send letter of thanks to Senator J. A. Donaldson and Representative Coleman for the active part taken by them in the health legislation before the late General Assembly.

On motion Holmes was directed to draw up a petition for the Society requesting the two U. S. Senators and the Congressman from the Sixth district to use their influence toward organizing a Department of Health, to be making of a Secretary of Health.

It was agreed by all that this was one of the most interesting meetings the Society has ever held.

F. M. GAINES, Secretary.

Daviess.—The Daviess County Medical Society met at the City Hall, Owensboro, on Tuesday, March 15th, the President, C. H. Todd, in the chair and twenty-six members present.

Kenneth C. Atchison was admitted to membership. D. M. Griffith, our Councilor, said he had lately attended a meeting of the Council. Among other things he said fifteen damage suits had been brought in the last year against Kentucky doctors. Four of the defendants were members of the Defense Branch and all four suits were dismissed. Eleven were now members of that branch, and all had to pay damages.

W. E. Irwin read a paper on "The Therapeutic Uses of the X-Ray." J. J. Rodman, Glahn and Griffith discussed it. The Society took dinner with the city physicians at The Rudd.

W. F. Stirman at the afternoon session read a paper on "Gunshot Wounds of the Abdomen."

O. W. Rash and Strother discussed the paper.

R. E. Griffin read a paper on Pneumonia.

W. F. Stirman in discussion said he had noticed that in patients who had repeated attacks, the tendency was for each attack to be lighter than the one preceding. He agreed with the essayist in the non-use of Antiphlogistine, or any poultice, or anything that would close the pores of the skin, and thereby lessen elimination. If you want warmth, use absorbent cotton.

S. J. Harris also thought that in successive attacks, the tendency was to diminish in severity. He thought that Ergot did more to support the heart than anything else. "What does that sweat at the crisis mean?" It shows that the blood vessels are giving away. Ergot supports them and digitalis supports the heart.

D. M. Griffith said: "If I had pneumonia tomorrow. I would want to be sweated in the beginning and then purged, best with calomel. In answer to Dr. Harris' suggestion, 'What does the sweat at the crisis mean?' I should say it was an effort of Nature to throw off the poison."

A. McKinney thought if there was any specific for pneumonia it was aconite and veratrum

viride.

Ed Barr: "I have more trouble with delayed restoratives. Would like if some one would tell me what to do for it. The pain in pneumonia is caused by the pleurisy, and I agree with Dr. Rash that the binder is good, inasmuch as it gives rest to the parts."

J. W. Barnhill would not undertake to treat a case of pneumonia without iodide of potash. He had given up the use of antiphlogistine years ago. Nothing in it but discomfort.

J. W. Ellis said might treat delayed resolution with iodide of potash. He had been treating this disease for nearly half a century, used to think he knew how to treat it, but knows now that he does not.

M. A. McDonald: "Don't think there is any specific for pneumonia. I treat each case as it appears best at the time. Sometimes use antiphlogistine."

R. E. Griffin in closing said: "I think if a case is properly treated we will have no crisis, but patient will gradually recover. Would not begin to treat a case without giving a purgative, but would not purge too freely."

The Society will meet the third Tuesday of June at Hickman Park, when the rural men will set a barbecued dinner.

J. J. RODMAN, Secretary.

Franklin.—The Franklin County Medical Society met at usual time and place, with the President, Dr. Barr, U. V. Williams, Secretary, and J. W. Wilson, G. H. Heilman, Flora W. Mastin, Coblin, Minish and Ross, and nurse, Miss M. F. Jett. Minutes of previous meeting read and approved. Committee on death of Dr. Horen report adopted. On motion it was ordered that the Secretary be instructed to tender the thanks of this Society to Senator Dowling and Representative Buford for the valuable services they rendered during the recent session of Legislature in the passage of various bills affecting public health and medical interests. Also on motion the Secretary was ordered to address a letter to each of our Senators, T. H. Paynter and W. O. Bradley, and solicit their earnest efforts in behalf of our profession to have passed an amendment to Section IV. of the Cullom Bill, entitled "A Bill to regulate the sale of habit-forming drugs;" said amendment to Sec. IV. of Cullom Bill desirable by the profession for its protection, reads, viz.: Sec. IV.—"but that nothing contained in this section shall apply to licensed practitioners actively engaged in medical practice, to veterinarians actually engaged in the practice of their profession, to public hospitals, or to scientific or public institutions."

J. S. Wilson, who read a paper on adenoids, which embraced a very acceptable representative of the subject in all its phases. **R. M. Coblin** to prepare paper for next meeting on May 2nd,

same place. He privileged to select his own subject. After which the Society adjourned.

U. V. WILLIAMS, Secretary.

In Memoriam.

Died on the 12th of February, 1910, Dr. George Z. Horen, of apoplexy, a member of the Franklin County Medical Society, member of Kentucky Midland Medical Society, and a member of the Kentucky Medical State Association. Aged 58 years, a practitioner of rare attainments for 38 years in Franklin County, enjoying a large clientage and the esteem of an universal friendship of all who knew him and all loved him. His patients adored him. His professional brethren knew him to be ethical, the soul of honor, and one who possessed all the amenities of life, generous, hospitable, liberal and conservative, a good citizen, a kind and indulgent parent and husband, a Christian gentleman, a staunch friend. This Society mourns his demise as a loss to its membership of a worthy colleague. He laid down his life work in the midst of usefulness and at the moment of a professional call and died with the harness still on.

McCracken.—McCracken County Medical Society met in regular session at the Woman's Club. H. P. Sights, the President, in the chair and the following other members present: Rivers, Stewart, McKinney, Blythe, Willingham, Holland, Burnett, Caldwell, Brooks, Bradley, Boyd, Childress and Bass. Minutes of the previous meeting were read and approved.

C. P. Burnett read paper on "Inflammations of the Pelvis," and deserved special credit because he had had only a few days in which to go over this extensive subject. His paper went over the ground carefully and as fully as could be done in that limited time, and proved of value in the discussions brought out as well as in the paper itself.

P. H. Stewart discussed the paper and asked especially, when pus became harmless.

G. C. McKinney answered this, saying: "When the bacteria are all dead pus is incapable of setting up a purulent inflammation."

Vernon Blythe spoke of other causes of purulent inflammation not mentioned by the essayist, among which he placed the bacillus of tuberculosis.

P. H. Sights and **Caldwell** also discussed the paper, and Dr. Burnett closed the discussion.

J. B. Acree, who was on the program for a paper on the Anatomy of the Stomach, and Dr. Bass, on the Physiology of the Stomach, both failing to produce their papers, the Society proceeded to a discussion of some clinical cases.

Delia Caldwell reported a case of great excess of amniotic fluid in which the descent of the head into the pelvis was delayed until the membranes were ruptured by the physician, after which delivery took place very speedily, not more

than fifteen minutes having elapsed after the loss of the excessive fluid until the delivery of the head. The patient was Para IV. No untoward results followed except a tendency to hemorrhage.

At this point of the meeting we had the pleasure of seeing our most esteemed Councilor and friend, W. W. Richmond, of Clinton, who had just arrived in town, and who was heartily greeted and welcomed by every member of the Society.

P. H. Stewart reported a most interesting case and wished the opinion of the members of the Society on his treatment of the case. The patient was a woman twenty-three years of age, had borne two children; first delivery was instrumental with excessive laceration of the perineum and cervix. The former was repaired, but the latter was not. She had had a goitre since she was fourteen years old. Menstruation had been regular since last November, since that time had been excessive with flooding every two weeks. On examination, with Dr. Rivers in consultation, there was found a tenderness on bimanual examination; on the left side of the abdomen was a mass the size of the fist; on the right side there was a larger mass. The sound was not passed. There was a history afterward of rapid enlargement, and the patient was sent to the hospital. Under an anaesthetic the uterine dilator was introduced and caused a great rush of blood. The hemorrhage was so great that tamponade had to be resorted to to control it. It was thought best to make an abdominal incision to ascertain the exact nature of the case. The uterus was found in the right iliac fossa, enlarged to about two and a half months of pregnancy. The left ovary was large and cystic. The diagnosis was placenta praevia, pregnancy and ovarian cyst. The abdomen was closed; patient was made comfortable, the uterus was packed. Subsequent history: pain and hemorrhage ceased, patient was comfortable. No expulsion of the foetus as yet.

W. W. Richmond, Burnett, Brooks, Caldwell, and **Boyd** ably discussed the paper. It was the general opinion that under the circumstances Stewart's line of procedure was right, though Dr. Boyd said he could not have refrained from emptying the uterus immediately.

J. W. Bass reported a case of labor; primipara, thirty-two years old; obese, dilation was slight, flooding was great. He did a podalic version and delivered the woman safely of a living child.

Frank Boyd reported a case: a laboring man twenty-eight years old, was taken with violent cramping and constant vomiting, with tenderness in the region of the gall bladder. On abdominal incision the gall bladder was found normal but an acute hepatitis with exudate was found. Stomach was normal. Mesentery was filled with shotty masses, a tubercular peritonitis. The ab-

domen was closed. The patient had been running morning temperature. He still had some fever, and the doctor did not know whether it was due to peritonitis or hepatitis. There was a peculiar odor in the abdomen.

Horace Rivers reported a case of questionable maternal impression, a woman greatly feared giving birth to an abnormal child and was delivered of a dead child with hydrocephalus.

It was voted by the Society to pass over all subjects not presented at the time assigned, also that each paper be limited to fifteen minutes and the discussions to five minutes.

W. W. Richmond gave the Society a most stirring address on the work of our associations of medical societies, local state, and national. He urged us to do our utmost to procure passage of measures recommended by the State Society. He also advocated the discussion of medical topics by our local society in open meetings, to which the lay public are invited; and the endorsement by this meeting of the proposed measures of legislation before the present Legislature. He recounted his most gratifying and encouraging experiences in arousing interest in medical subjects at Farmers' Institutes, teachers' meetings and such lay meetings. He complimented Paducah doctors and said he had watched our progress with interest and saw marked evidence of good scientific work in the profession here.

After Dr. Richmond's address the following resolutions were presented by Boyd and unanimously adopted by the Society:

"Resolved: That we, the members of McCracken County Medical Society, extend our sincere thanks to Hon. W. V. Eaton, our Senator, and the Hon. F. E. Graves, our Representative, for the part they have taken in assisting medical legislation looking to the benefit of the people of the state,

"And Resolved, further: That we respectfully urge and request their help in passing like desirable measures which may still come up during this session of the Legislature.

Resolved further, That a copy of these resolutions be forwarded by the Secretary to our esteemed Legislators, Hon. F. E. Graves and Hon. W. V. Eaton."

Horace Rivers moved that the President and Secretary be appointed a committee to arrange an open meeting of the Society to which the lay public be invited. It was passed after being amended by the President appointing a committee consisting of Drs. Caldwell and Blythe.

The following doctors paid dues: Brooks, Childress, Bass, Rivers, Boyd, Stewart, Holland, Willingham and Blythe. There being no further business the Society adjourned.

DELIA CALDWELL, Secretary.

Owen.—The Owen County Medical Society met at 10 A. M., Thursday, April 7, 1910, with W.

B. Salin in the chair and with J. H. Christman, D. E. Lusby, K. S. McBee, T. G. Connell, J. C. B. Foster, W. B. Salin and Geo. Purdy answering to their names when the roll was called, and with C. C. Kemper, D. D. S., an honorary member, also present.

Maurice Bell, of Monterey, made application for membership at this meeting and was unanimously elected. The Society expressed its satisfaction at being able to add the name of this respected practitioner to its roll and new resolves to solicit every eligible physician in the county were made. The clinic and report of cases were interesting and instructive.

K. S. McBee introduced the discussion, which brought out many just compliments for the paper.

C. C. Kemper read an excellent paper on "Pyorrhoea Alveolaris." Just a little out of the ordinary, coming from our brother dentist. A treat, and the members did not hesitate to express their admiration for the paper, and satisfaction at having it so ably presented.

W. B. Salin finished the program by giving the Society a thorough paper on "Chronic Bright's Disease." The paper was discussed by all of the members present.

The program for our next meeting is as follows: "Aortic Regurgitation," paper, W. E. Foster; discussion, W. B. Salin. "Village Water Supply Sanitation," paper, T. G. Connell; discussion, J. H. Christman. "Epidemic Dysentery," paper, J. C. B. Foster; discussion, K. S. McBee. After announcing the program the Society adjourned to meet again at 10 A. M., Thursday, May 5, 1910.

GEORGE PURDAY, Secretary.

Spencer.—The Spencer County Medical Society met at the Court House in Taylorsville, Wednesday evening, April 13th, with a fair attendance and H. C. Mathis and E. Williams, both retired physicians, present as visitors.

The Society was called to order by the President, J. T. Martin, at 8 p. m. The minutes of the previous meeting were read and approved.

O. M. Crenshaw read a paper, "Diet for the Sick." The discussions proved quite interesting and "lively" and while there was considerable difference of opinion, there was no feeling of personal jealousy or strife evident, and all enjoyed the meeting very much.

The Society then adjourned to meet again on Wednesday night, May 18th, at 8 p. m. O. L. Conrad will furnish a paper for the next meeting.

O. M. CRENSHAW Secretary.

Scott.—The Scott County Medical Society met at Georgetown Monday, April 18. House called to order at 11 A. M. by W. S. Allphin, Presi-

dent. In the absence of the Secretary, H. V. Johnson acted as Secretary Pro Tem. The minutes of the former meeting were read and adopted. Those being present were Knox, Barlow, Crutchfield, Coons, Foreman, Heath, Porter and Johnson.

W. B. Foreman reported a case of Ecchymosis following removal of a small Lipoma, and asked the cause. Also a case of uterine hemorrhage three weeks after labor.

The members decided to meet at 1 P. M. instead of 9 A. M. on day of regular meeting.

John A. Lewis, a recent member of our Society, who has been in continuous practice at this place for the past forty years and in whom this Society owes its success through his indefatigable efforts, not alone as an active member, but as a man of the highest integrity and competency in the upbuilding of the profession throughout the State, having withdrawn from the Society and entered into retirement from active practice, was unanimously elected an honorary member for life.

John E. Pack, our Secretary, who has been our efficient officer for the past fifteen years, and on account of his arduous duties, resigned. His resignation was accepted and E. C. Barlow was elected in his place.

J. C. Hartman petitioned the Society for membership. Elected.

D. B. Knox is on the program for a paper at the next meeting, "Fractures of the Femur in the Aged."

L. F. Heath a paper, "Malaria."

There being no further business to come before us our meeting adjourned.

E. C. BARLOW, Secretary.

Trimble.—Trimble County Society met at Bedford on Monday, March 28. The meeting was well attended, McMahon presiding. After the reading of the minutes of the last meeting, the report on purchasing drugs was heard and continued.

C. P. Harwood and **Contri** were appointed to draft resolutions in compliment to Senator Donaldson and Representative Clore for the active intelligent interest taken by them in the interest of the medical profession during the session of the last Legislature. Because of the interference with the professional business of the Bedford doctors on court day, the day of the Bedford meeting was changed from the fourth to the third Monday of the month. The subject for debate for this meeting was Pneumonia, but it was deferred to the next meeting for want of time.

L. G. Contri's report of a case of partial inversion of the uterus after labor was also deferred.

April 14th was the date selected for holding a public medical meeting in Bedford, and Contri

was instructed to secure the speakers. Society adjourned to meet in Milton, Monday, April 18, 1910.

L. G. CONTRI, Secretary.

Taylor County.—The hibernation of the Taylor County Medical Society ended today with a full meeting at which were present Buchanan, S. H. Kelsay, Black, Reesor, Hiestand, Gowdy, Murphy, Sanders and Atkinson.

S. H. Kelsay was made President pro tem in the absence of the President. Minutes of last meeting read and approved.

C. V. Hiestand reported a case of a woman who was eight months pregnant, who was sick with symptoms of severe toxæmia, vomiting, some fever and shifting pains. Bowels constipated and heart rapid and weak. She improved under eliminative treatment, but a few days later was confined, going through the labor without incident, and felt very comfortable though pulse remained quite rapid. Under heart stimulation and the administration of saline sol. under the skin she improved. Four days later was called to see her and found her hoarse and suffering from difficult respiration and the lungs much congested. She died five hours later, probably from pulmonary oedema. Hiestand also reported a case, and exhibited specimen of fibroid polypus removed from the cervix of a patient. Removal was done by torsion.

J. B. Buchanan reported a series of eight cases of Intestinal Obstruction. One from sand ingested in drinking water, another from blue clay and sand from the same source, another from the boy eating young hickory buds, another from various articles eaten rapidly while taking a hearty meal, another from eating sweet potatoes too heartily, and another from gall stones; all of which were relieved by the administration of atropin and the persistent use of enemata. Another case that could not be relieved by enemata a laparotomy was performed and much gas and fecal matter removed in which were found fish bones, chicken bones, unbroken beans and other debris. Patient still passes fecal matter through a tube, but the bowels otherwise are in a practically normal condition and he has gained 35 pounds in weight.

O. M. Kelsay reported a case of a child four years of age, constipated, vomiting, restless at nights and right knee flexed. Pulse was accelerated, but no fever and no tenderness. Administered calomel and santonine, followed by a few drops of turpentine and child passed twenty six worms wound together in a mass.

J. L. Atkinson reported a case of spontaneous version from a transverse to a normal left occipito-anterior position in a woman who had been having labor pains for several days. Version took place from letting her get on her feet and the labor was completed in less than thirty min-

utes. Atkinson also reported a case of placenta previa, marginal attachment, in which labor came on at six and a half months. Later terminated favorably for the mother.

O. R. Reesor reported a case of rheumatism of right hand that has resisted treatment for eight weeks. Buchanan advised Novaspirin and wine of colchicum. Kelsay advised sod. bicarb. locally by locally by hot pack.

E. L. Gowdy read a paper, "Some Personal Observations on Toxaemia of Pregnancy." Gowdy was requested by the Society to submit his paper to the *Journal* for publication.

This was one of the best meetings in the history of the Society—all the members being present except two. Program for the May meeting was prepared and Society adjourned.

J. L. ATKINSON, Secretary.

Wolfe County.—Wolfe County Medical Society held their monthly meeting for March in Campton, March 7, 1910. Our membership in this county is twelve. Reputable doctors and two quacks; however, the quacks are not members of our Society. Our April meeting will be held at Hazelgreen on the first Saturday. We still have some smallpox at Lee City.

B. D. COX, Secretary.

BOOK REVIEWS.

The Physician's Account Book, by J. J. Taylor, M. D., bound in full leather, 24 pages of practical instructions for physicians, 216 pages of accounts. Price \$1 per copy; published by The Medical Council, 4105 Walnut St., Philadelphia, Pa.

This book is without a doubt the most complete and at the same time simple and thoroughly efficient account book that has even been devised. Furthermore, it is absolutely legal and can be presented in any court of justice. It does not make use of any hieroglyphics, but everything is entered in plain language, and any judge can understand it.

Nutrition and Dietetics, A manual for students of medicine, for trained nurses and for dietitians in hospitals and other institutions, by Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School Lecturer on Philosophy and Dietetics, in Mercy Hospital and Wesley Hospital, Chicago. D. Appleton & Company, Publishers, New York and London.

The first part is devoted to the chemical needs of the body, and defines and classifies foods. The use of foods in the body, diet in health, diet in disease are discussed in the remaining parts. Only in the appendices are contained recipes.

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ESSAY.—OBSERVATIONS IN THE EYE, EAR, NOSE AND THROAT WORK IN EUROPE.

BY W. J. LEACH, NEW ALBANY, IND.

The President of this section has kindly asked me to relate some of my observations in Eye, Ear, Nose and Throat work while in Europe last summer. Having been asked frequently how this work in Europe compares with that of America, I feel induced to make a few comparisons.

As to Pathology, Bacteriology and Diagnosis, the Germans are far in the lead of the world, but in surgical technique, the Americans certainly excel, at least in asepsis and in conserving the patient's strength and vital forces by adopting measures to prevent pain and shock, fear and terror, all of which, to some degree, influence mortality account. By comparison, the American surgeon is far more careful to avoid unnecessary loss of blood and tissue than is the European. In Germany, anaesthetics are given somewhat carelessly, ether being the one most frequently administered and usually by saturating some gauze and placing it in a rubber bag, which is held tightly over the nose and mouth, excluding all of the air and suffocating rather than anaesthetizing the patient, and this is often conducted by an undergraduate or a layman. Some English surgeons also follow this plan, which though quite rapid and economic, seems to the writer quite unsafe and unjustifiable as well as extremely unpleasant to the patient in the beginning. Many English surgeons use the drop method, which is so common in this country.

The great Jansen does very many mastoid and sinus operations and always under ether by the closed method. He usually does nasal and throat surgery under Scopolamine-Mor-

phine anesthesia hypodermically with Cocaine locally. Max Halle uses ethyl bromid in the upright posture for tonsillotomy and adenectomy in children. Many English surgeons still use the A₁ C₂ E₃ mixture, but Mr. Gardner, who has recently written a book on anaesthetics, prefers a mixture of C₂ E₁, which is growing in favor in London.

Many tonsils and adenoids are removed in Germany without an anaesthetic, but seldom if ever in London, where nitrous oxide, ethyl chlorid, A C E mixture and the C & E mixture are all more or less used.

Mr. Waugh, at the hospital for sick children, uses chloroform to a profound degree for tonsillectomy. Prof. Bier at the University of Berlin does many major operations under the infiltration anaesthesia by a special method of rendering the part anemic when possible and then injecting the anaesthetic mixture in the veins. Spinal Anaesthesia is also extensively practiced in Europe.

Persistence in the use of infiltration and spinal anaesthesia for major operations well illustrates the gravity of general anaesthesia as viewed by the public and the profession.

Europeans agree with us that children with diseased tonsils and adenoids are the worst of all cases of general anaesthetics especially for chloroform although conceded that generally children take it better than adults.

Berlin the great German metropolis and capital, the most beautiful and best kept city in Europe is rapidly becoming, if not now, the greatest center for scientific medicine and surgery in the world.

Probably the Viennese physician would not grant this statement, but London laymen proudly refer to their medical attendant as one who has "finished" in Germany, therefore is the best.

The Germans excel in diagnosis because

of their diligent work in their splendidly equipped bacteriologic, pathologic and chemical laboratories.

Expert radiography is another valuable adjunct to their method of diagnosis, and is much depended upon. So by extreme diligence, the German doctor finally diagnoses his case even though it be several days after the post mortem. Be that as it may, a correct diagnosis is the most satisfactory thing in the practice of medicine, and the most essential thing to proper treatment. The Germans have, also, a good working knowledge of anatomy and physiology, which with their laboratory facilities, tend to supplant empiric medicine with rational science, which combined with the hearty financial and moral support of the German Government, give the German doctor full courage to act radically in support of his convictions, all of which may seem well demonstrated in surgery of the mastoid and sinuses in Jansen's clinic in Berlin, which is, doubtless, the best of its kind in the world, where by conservative estimate, there are no less than one thousand major operations performed each year.

After studying a collection of over five hundred skulls, showing almost as many abnormalities in development of the sinuses in Heymen's and Ritter's laboratory, one wonders why a surgeon should plunge with his chisel and burr as does Dr. Jansen in his rapid operations, for he does not always escape accident therefrom, but by his mental fortitude and operative dexterity, he seems to always be able to extricate himself from all serious difficulties. Notwithstanding the most radical surgery, he seems to do a great many secondary and a few third operations in order to complete the cure.

His treatment of the frontal sinus is usually by the Killian method, modified by breaking the roof of the sinus with the overlying soft tissue intact, rendering the whole cavity quite accessible and after perfect excavation of the sinus, the roof is replaced, which heals quickly. He claims that this is necessary to reach every part of the sinus.

He frequently opens the Antrum of Highmore by going through the nasal vestibule after removing the anterior extremity of the inferior turbinate body, then removing the external nasal wall of bone with the anterior walls of the antrum, beginning by making an incision of the overlying soft tissues at the mucocutaneous junction in the vestibule, carefully preserving the periosteum and mucous membrane in the meatus as he dissects it all free from the bone. Then with the chisel and forceps he removes the external meatal wall and the anterior antral wall of bone, after which he excavates the cavity, then

makes an incision anteroposteriorly through the meatal mucous membrane and periosteum just below the line of attachment of the inferior turbinate body. This flap is pushed into the antrum and forms a covering for the floor of the antrum, which with the meatus forms one common cavity. The ethmoids may also be opened and drained through this cavity at the same time.

Submucous resections is a very popular operation in Europe. More so than in America.

Dr. Max Halle seems to have originated the replacing of the septal cartilage in its normal position after it has been removed, closing the wound with sutures, after which the perichondrium re-attaches itself and the cartilage furnishes support to the septum in proper position and shape. I have seen Jansen perform this operation also. Dr. Jansen does less scrubbing of the field of operation than is usual, but always paints the field with Tr. Iodine and Carbolic Acid. He depends very much upon the radiograph in diagnosing sinus and mastoid diseases, as do the German surgeons in general. In only one instance did I see this means fail him. In this case the shadow showed plainly in connection with the usual symptoms of frontal and ethmoid disease. All the sinuses including the sphenoid, were opened, but no diseased tissue was found. Dr. Jansen disregards the diplopia following the Killian operation, as it is usually recovered from. Besides Jansen's ear, nose and throat clinic, there are several other very good ones in Berlin, notably Passow's at the University, and also one at Charite, and Max Halle, Heyman and Ritter, and several others.

Tonsil surgery in Berlin and London is inferior to that of America. While the surgeons admit that tonsillectomy is ideal, they seem unwilling to perform it, with one notable exception, which is that of Mr. Wagh, of London, who claims to have performed it 2,000 times, enucleating the tonsils by blunt dissection under profound chloroform anaesthesia. He does this work on children under twelve years of age at the Hospital for sick children. Mr. Wagh claims that routine tonsillotomy yields 20% of recurrences, therefore always performs tonsillectomy.

I asked one of the house surgeons at Golden Square Nose and Throat Hospital, where they do about sixty tonsillotomies each week, why they did not do tonsillectomy, and he said they did not have time to do so many tedious operations. Is that a justifiable excuse from an American standpoint? The fact is they do not take advantage of their opportunities to advance, nor will they allow others to step in and do so, for there are plenty of surgeons in London who would, if allowed.

However, there are splendid didactic courses of instruction given at both the Golden Square and at the Central London Nose and Throat Hospitals and with their overabundance of clinical material, they make very desirable places to go for special training.

While in London, it was my supreme pleasure to see Sir Victor Horsley remove two brain tumors in one day, one from the cerebrum, the other from the cerebellum, both about the size of a small orange. Horsley usually does a preliminary operation and waits two weeks before completing the removal. The preliminary operation consists in raising a large flap of bone with scalp attached from over the site of tumor, which is then replaced and fixed with skin sutures and in two weeks he expects some adhesions to take place between the dura and the edge of the bone wound, then he is ready to do the final operation, expecting those adhesions to protect the meninges from infection or injury. He then again raises the flap and opens the dura and removes the growth. During the operation, he constantly irrigates the field with a normal salt solution at a temperature of 110° F. to protect the brain tissue from chill and staunch hemorrhage, after which he closes the wound as before.

This great surgeon, probably the greatest brain surgeon in the world, followed the best and most careful technique that it was my pleasure to observe while in Europe. Indeed every minute and every movement seemed important to Sir Victor Horsley. While he directs and commands his assistants and nurses in the most exacting manner, he also does it in the most kind and respectful manner, which at once stamps him as a cultured and well bred English gentleman, as well as a master surgeon and neurologist. He greatly prefers chloroform as the anaesthetic for brain surgery.

The great British champion of serum therapy, Sir A. E. Wright, holds his immense clinic at St. Mary's Hospital, London, where he treats many patients with numerous ills ranging from the simplest wound to leprosy, having one case of the latter under treatment during my visit. This leper was urged to remain in the hospital, but refused and was allowed to run at will in London, to the surprise of many foreigners. Sir Wright has but little use for drugs, depending almost exclusively upon serum therapy for cure, even more, for prevention as well. Several English surgeons use prophylactic injections of Anti-streptococci and Anti-staphylococci serum in perfectly sterile wounds, hoping thereby to prevent infection, and arguing that prevention is very impressive and inspires

great hope for a perfected serum therapy.

After a few visits to his clinic, one is delightfully impressed with his charming personality, and his unassuming and modest zeal for working out his many difficult problems.

Probably no Scotchman in London is more highly regarded than Sir Wright. His greatest delight seems to be to teach the sincere and industrious student. This he does as he works all the while. To a reasonable and intelligent query, Sir Wright will always give the most respectful attention and the most explicit answer.

You will note in passing that it is the men who have really accomplished most and acceded to the highest honors who will show you the kindest consideration, at least, in the medical world. And the fellow who snubs you is usually an underling. In short, one will be well treated by good men, providing he manifests intelligence, culture, and kindly appreciation.

OPHTHALMOLOGY.

On arriving in Berlin, I sought and found Prof. Greeff in the Charity Hospital, where he has a splendid clinic and laboratory, in which he proceeded at once to entertain and instruct me, expressing pleasure in meeting a friend of Dr. Adolf Pfingst, from whom I bore a card of introduction.

In his laboratory, are several specimens bearing awards from the St. Louis Fair, to which he called my attention with modest pride.

At one of his lectures to the University class, he beautifully illustrated refraction in a dark room by passing a shaft of light lengthwise through a glass box, oblong in shape, containing water which was colored green. The light rays passing through the green transparent fluid clearly outlined the shaft, and by the use of spherical and cylindrical lenses placed before the opening in the lamp chimney, the shaft of light was so changed in shape and point of focus as to beautifully demonstrate to the class the physics of refraction.

Prof. Greeff has the distinction of having discovered the Tracoma Bacillus, which seems to stand the test. Prof. Mielch at the University Clinic does a great many tenotomies and but few advancements for strabismus, nor does he care to refract many of his strabismic patients as we do in America. Quite noticeable was his practice of allowing patients after cataract operations to at once assume the upright posture, even to walk from the operating room.

Lachrymal probing is getting quite rare in Berlin and London, but many sacs are being removed, which is considered by many good

operators, the most difficult of all ophthalmic operations.

Refraction work is not so carefully done in Germany, nor do they refract so great a proportion of ametropic patients as do the English and Americans. Nor is German optical work and fitting so convenient, neat, or mechanically correct, as in America.

Ophthalmology is splendidly taught in the foregoing clinics as well as in that of Prof. Selix. Dr. Pollock, Dr. Oppenheimer, and others where there is an over abundance of material and the fee is reasonable.

Ophthalmic practice in London is of the good, old-fashioned kind and Mr. Sidney Stevenson, who edits the *Ophthalmoscope*, said to me: "The English oculist does very few new things, but sits silently on the fence, carefully noting the progress of others until he is convinced of the value of a new procedure, when he then falls in line of procession, thus constituting him a safe oculist."

Probably the best ophthalmic hospital in the world is the Royal at Morefields, London, where they treat about five hundred patients each day, many of which are operative. Most of the staff at Morefields prefer the combined operation for cataract, while a few do the simple. The house surgeon, Dr. Gibbs, often substitutes the button hole procedure, thus providing a way of escape for the lens debris near the corneal wound, lessening the danger of iris prolapse, yet preserving a round pupil. Secondary needling is performed in nearly all cases, so little do they regard the risk and so much do they regard a perfectly clear pupil. All operative cases involving the uvea are kept quiet and recumbent for a few days.

No Mules' operations are performed at Moorefields, but the glass ball is often placed within the capsule of tenon instead.

Sylectodialysis is being tried for glaucoma instead iridectomy, but results are still uncertain. Both the giant and small magnet are being well utilized at Moorefields and with the aid of the radiograph, they seldom fail to accurately locate and remove magnetic bodies from the eye. But experience and dexterity is necessary to perform this work well. Fortunately the foreign body seems usually aseptic. Mr. Herbert Parsons and others do not operate upon violent acute glaucoma unless vision is rapidly lowering, preferring to await the interval. There seems also a growing tendency to use eserine in chronic non-inflammatory Glaucoma where iridectomy was frequently performed.

A few surgeons are still practicing Schlectrotomy for detached retina with varying success. Sometimes the cautery knife is used for

the puncture in order to produce adhesions of the retina to the sclera at the sight of the wound.

In cases of strabismus where refraction is insufficient, the English usually do Worth's advancement, with or without tenotomy as indicated.

SURGICAL DIAGNOSIS.

BY JOHN W. PRICE, JR., LOUISVILLE.

The public has become so educated by the daily press and weekly publications in regard to diseases that now they demand that an early diagnosis be made in all diseases and deformities which may be treated by surgical methods.

A long service in two large hospitals where cases were constantly referred for operation demonstrated that in many cases an early diagnosis was not made on account of the failure of the attending physician to make a complete examination.

During the past ten years new methods of examination have been introduced and more attention has been given to the technique of applying the old methods, so it seems timely to review them.

Some methods require special skill for their application, but it is the duty of the physician to the patient to recognize when they are to be employed and to call in consultation a man trained to apply them.

It must be emphasized that in order to make a complete examination the entire body must be prepared for examination. The examination must be systematically performed and it is my practice to take as much of the history during the examination as possible. The history will make it clear if special examinations are to be resorted to or not.

A routine examination may be made as follows:

First.—We should observe the temperature, rate of pulse and respiration and then inspection of the conjunctiva for jaundice, of the mucous membranes for the presence of anemia, ulceration, etc.; of the teeth for caries and the tongue for the condition of gastro-intestinal tract; of the chest for characteristic changes in shape; of the breast for changes in shape, size, retraction of the nipple, discharges and ulcerations; of the abdomen for changes in shape, such as increased width and flatness or rounded protruding abdomen in cases of tumor, pregnancy, etc., and for the condition of the skin, striae, pigmentation, dilated veins, etc.; inspection of the external genitalia for changes, in the pubes, perineum and in women of the vaginal mucus membrane; of the cervix for ulcerations and uterine discharge; of the legs for

edema, scars and deformities.

Second.—By palpation we seek to determine the contents of the abdominal cavity, the differences in consistency between tumors that are more or less hard and the surrounding intestines; also the shape, mobility and contents of the tumors are recognized. Lastly we employ palpation for determining painful areas in the abdomen.

Third.—Percussion is employed as an auxiliary to palpation for the demonstration of free fluid in the abdomen, such as ascites, blood and pus. All the tumors are dull on percussion. A modified tympanic percussion note is obtained in case of tumors with adherent intestines and inflammatory and carcinomatous tumors situated among the coils of the intestines. Palpation and percussion must be applied to the chest to determine the condition of the lungs and pleural cavity.

Fourth.—Auscultation is employed in diagnosing the condition of the lungs and in demonstrating in the abdomen the presence of fetal movements, fetal heart sounds, uterine bruit and intestinal peristalsis.

Fifth.—We have a combined examination, that is one hand is placed on the abdomen and the other is inserted in the vagina. It is employed to determine alterations in the vagina and of the internal genitalia. The position of the patient is important in order to relax the abdominal walls. Therefore the lower border of the thorax and the upper border of the pelvis must be approximated as much as possible. This may be effected by elevating both the trunk and the pelvis and by flexing the thighs at the hip joints. As a means of differentiating between fluid and solid pelvic tumors a trimanual method of percussion may be employed. The tumor mass should be confined between the two examining hands and percussion made by an assistant. With light quick taps even small collections of fluid may be detected by a quick responsive pulsatile wave passing from the abdominal to the pelvic hand.

The Trendelenburg position also permits of a very accurate examination of the internal genitalia because it allows the intestines, ascitic fluid and movable tumors to fall against the diaphragm. The standing posture is employed to diagnose a prolapse. The knee chest position for the purposes of diagnosis of abdominal conditions has become obsolete. It is of assistance, however, in making rectal examinations.

Because infection may be carried from one patient to another in cases of breaking down carcinoma and myoma, gonorrhea or purulent catarrh it is advised that a sterile rubber glove be worn during all vaginal examinations.

Examination under general anesthesia is to be recommended if there is any doubt as to whether operation is indicated or not; to determine the extent of a carcinoma in the tissue surrounding the uterus; in a young unmarried woman to protect the patient against the moral shock of the procedure and and because it makes certain an examination.

By a combined examination we note the shape, form and character of the external os, the consistency of the tissue and in the degree of relaxation of the mucus membrane and the perineum. Then the uterus is examined and then the tubes and ovaries on each side.

Sixth.—The uterine sound should be employed only by a specialist. If distinct irregularities of the endometrium are discovered they are usually pathological. They are felt in cases of carcinomatous changes of the mucus membrane, in chronic fungus endometritis and retention of small portions of decidua after abortion. The contra-indications to the use of the sound are pregnancy, acute infection in the neighborhood of the uterus and virulent catarrh. The accident that is more dreaded than any other is perforation of the uterus.

Seventh.—Dilation and palpation of the interior of the uterus is best adapted for recognizing circumscribed gross changes such as polypi, myomata or carcinomatous infiltration. Now if some of the tissue is removed by curette and examined microscopically we may recognize with certainty the histologic changes. The early diagnosis of uterine cancer has placed the exploratory curettage and the excision of a piece of tissue in the front rank of diagnostic methods and demands their application by every practicing physician. As carcinoma has often been discovered with a microscope when it was not suspected, all uterine scrapings should be subjected to microscopic examination.

Eighth.—Cystoscopy is indispensable in long protracted and severe catarrh of the bladder. Also when there is reason to suspect as a primary cause of the catarrh tumors, stones, foreign bodies or ulcerative processes; 2.—If there is pyuria; this is to determine whether the pus comes from the bladder wall; perforated abscesses or whether it is derived from the ureters or kidneys. Chromo cystoscopy as devised by Voleker and Joseph is of considerable assistance; it consists in the injection of 4 cc of a sterile 4% solution of indigo-carmin in the gluteal region about twenty minutes before cystoscopy is performed. The urine is stained blue so that the position of the ureteral opening is easily found and the activity of the ureters can be determined; 3.—Hematuria; the main point to determine is whether the

blood comes from the bladder or from the kidneys; 4—If the history of the case points to tumors, stones, or foreign bodies in the bladder; 5—If the vesical symptoms can not be explained by the examination of the urine; 6—For the diagnosis of extent of carcinoma of the genital, which can be recognized by combined examination; 7—Diagnosis of diseases of the ureters; 8—Diagnosis of functional disturbances and diseases of the kidneys.

Ninth.—Catherization of the ureters is indicated in order to obtain the secretion of one kidney; 2—when chromo cystoscopy has failed to yield positive information as to the permeability and functional state of the ureter. 3—In a few cases in order to mark the position of the ureter for operation in its immediate neighborhood.

Tenth.—Examination of the rectum is indicated whenever the patient gives a history of painful defecation or passing blood per rectum, also in cases of a chronic diarrhea alternating with constipation, in aged patients suffering with chronic constipation, in males who have nocturnal frequency of urination, the cause of which may be enlarged prostate and finally in those patients who complain of incontinence of feces or any other discharge as would come from fistulae or ischio-rectal abscess. The methods of examining the rectum are first—inspection; second, digital palpation, and third, with a protoscope.

Eleventh.—Examination by means of Rontgen rays may be made in cases of deformities or fractures and for the detection of foreign bodies in the various organs, especially of detection of calculi in the urinary tract.

Twelfth.—The methods of the laboratory must be employed for examining the urine. Not only must chemical and microscopic examinations be made, but in suspected cases of tuberculosis of the kidneys guinea pig inoculations must be made and thorough careful bacteriological methods employed.

The blood must be examined in cases of evident anemia, for hemoglobin and a count must be made of the red blood cells and also the white. Stained smears must be examined for characteristic changes in either the red or the white cells. The white blood count is of assistance in making a differential diagnosis, for example between appendicitis and extrauterine pregnancy. Also for determining the severity of various abdominal infections. In cases of septicemia of unknown cause a diagnosis may be made by blood cultures. An analysis of the stomach contents should be made in those cases having pronounced stomach symptoms. Blood and free HCL are usually indicative of ulcer. Blood, lactic acid and no HCL, are in favor of cancer. If par-

ticles of food from the meal of the day before are found, pyloric obstruction is certain.

Examination.—The feces must be examined for parasites, and the sputum and other discharges, as from the urethra can be examined for suspected bacteria.

Thirteenth.—Concerning the history of the patient it is important to obtain definite information in regard to the age, occupation and localities in which he lives and has lived. The reasons for wanting this information are clear. For example: Cancer and other diseases are more common during definite periods of man's life, gastric ulcers or diseases of the stomach are common in cooks, shoemakers and carpenters; calculi in the urinary tract are more common in men living in limestone countries, etc.

It is important to know the family history, especially if tuberculosis, diabetes, carcinoma, gout, renal or cardiac diseases have been present or not. The patient's previous medical history must be known, especially whether or not he has suffered with venereal infection, tuberculosis, articular rheumatism, typhoid fever, jaundice or pneumonia.

In women the menstrual history must be carefully taken, note especially the age at the first menstruation, if they are painful, profuse or scant, if regular or irregular, if one or two or more months have been missed between periods and know exactly when the last period occurred and when the next one is due.

The record of the present illness is essential, but in order for it to be of any diagnostic aid it must be accurate. This often requires the greatest patience on the part of the physician. An accurate history is often only obtained by constant repetition of the questions, the form of which have been slightly changed. We must know how long the patient has been sick, i. e., the day or the month or the year in which the onset occurred. Also the character of the symptoms. If they are constant or intermittent. In diseases of the stomach this is of primary importance. Constant symptoms indicate chronic catarrhal conditions, while intermittent ones favor possibility of ulcer. Do the symptoms come on at the same hour? Before breakfast or long after meals (indicates ulcer) or during meals (indicates secondary dyspepsia, nervous dyspepsia or secondary dyspepsia and primary intestinal disease). Has a patient real pain in the abdomen or only fullness, pure functional diseases never have real pain, while ulcer, carcinoma, stenosis of the stomach, gall-stones and intestinal colic are characterized by real pain. If there is fullness, is it constant or does it occur only after eating. If it occurs only after a hard diet

chronic gastritis is probable; if after either a soft or hard diet it may be functional. Is there hiccupping, belching, regurgitation? When there is real pain is it cramp like, cutting, boring, or burning? When does it come on? Where does it begin? Is it referred to the region of the shoulder or down in the pelvis, etc? Does it come on at a regular hour or every day or month? Is it dependent on eating, defecation, urination or menstruation? Is it affected by walking or jumping or change of posture? Does vomiting follow this pain or relieve it? If there is vomiting does it come on early or long after meals? Does the vomitus contain food eaten the day before, or mucus or sour fluid or bile? Is the vomiting daily or does it occur every week or every month or only after eating such food as cabbage, pork, cheese? Are the bowel movements regular daily? Are they hard, soft, or fluid? Do they contain blood or mucus? Do they cause pain? Does the patient complain of insomnia, constant hunger or thirst or of always being tired?

In conclusion I will say that the exploratory needle should not be forgotten and that if there is an obscure abdominal condition which can not be definitely diagnosed after every method of external examination has been performed and if it is considered that the patient might be benefitted by an operation without undue risk of life then an exploratory laparotomy should be performed.

- REFERENCES: Winter and Ruge—Gynecological Diagnosis.
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DISCUSSION.

J. Rowan Morrison: It seems to me that Dr. Price has taken up the subject of medical, as well as surgical diagnosis, and I wish to commend him for the thorough manner in which he has gone into the subject.

I believe, in many instances, we do not find out what is the matter with the patient simply because we do not use all the means at our command. I daresay there are more cases of that class than those where we really are unable to make diagnosis. Dr. Marvin is in the habit of giving some very good instruction to students along this line; he says, when a patient comes to you for advice, "Look, feel and listen." History taking is most important. When the patient comes to you the first thing to do is to begin taking history. The patient may get disgusted, and you may have to stop and tell him a few stories, and then begin on your history again.

That reminds me of a little story I heard not long ago. An old colored woman went to a doctor, and about the first thing he asked was: "What's the matter with you?" The woman replied: "I came here for you to find out what's the matter with me." "Well," said the doctor, "do you have dizziness and headache; do you defecate regularly," etc. At that the old woman sniffed and said: "What kind of a doctor are you, anyhow? Any doctor ought to be able to tell when a woman's got falling of the womb by looking into her eye!" A great many people have the same idea, but that is no excuse for not making a thorough examination. You can't ask a man if he has had syphilis; he will say no; and you can't even ask him if he has had a sore on his penis. You have to go at it in a round-about way to find out whether he has had syphilis or not. The other day a clinical patient denied syphilis, and denied ever having had a sore on his penis. Finally, I asked him if he never had even a little bit of a blister on his penis, and if he had ever had "blue-balls, and he admitted that he had, and working from that start I finally found that the fellow had had syphilis, although he denied it.

As thorough as Dr. Price's paper has been, there are some things which he has not covered as thoroughly as they deserve. One is in regard to taking the reflexes; he said nothing about that. Sometimes we may go all over a patient and still overlook an Argyle Robinson pupil, loss of tendon reflexes, etc. I think this phase of the subject should have been mentioned.

Another point that I do not think the essayist paid enough attention to is inspection, both of the chest and abdomen. In Dr. Osler's recent book, he says that in examination of the abdomen, inspection plays a most prominent part. For instance, if a man has gastroptosis, when he stands up you can see the stomach and gut hanging down; if he has obstruction of the pylorus, if you will tap around there, you will see a wave of reverse peristalsis. Inspection also plays a very important part in the diagnosis of many chest conditions. In my opinion, the diaphragmatic phenomena, or Litten's sign, often gives us valuable information.

R. Hayes Davis: I wish to compliment Dr. Price upon the complete manner in which he has discussed this important subject.

There are several things I would like to call attention to. One is the tongue in gastro-intestinal conditions. The essayist stated that the condition of the tongue should be noted as a means of determining the state of the gastro-intestinal tract. I believe at the present time very few men pay much attention to the tongue as a means of diagnosis in conditions of that kind. Usually when the tongue is coated, it is an indication of affections of the pharynx or nose, or possibly the teeth. In some rare in-

stances it is coated on account of loss of appetite, but, as a rule, in gastro-intestinal diseases, the condition of the tongue does not play a very important part. It may be coated or it may not be. A very large percentage of perfectly normal individuals, apparently in the best of health, have coated tongues, all their lives. I once knew a physician who took hydrochloric acid for two years simply because he had a coated tongue. He was a man who enjoyed perfect health, and could eat anything he cared for without a single gastro-intestinal symptom.

The next thing of importance, which Dr. Morrison mentioned, is the great value of inspection of the abdomen. If the abdomen is carefully inspected, and especially if it be struck with a wet towel, or with the hand, rather quickly and forcibly, peristalsis may be brought about, and visible peristalsis over the stomach is, with one exception, absolutely pathognomonic of pyloric obstruction. The exceptions are cases of neurotic peristaltic unrest, which are extremely rare.

Another very important point which has been overlooked is inflation of the abdominal organs. There is no means so accurate for determining the size and position of the stomach as to insert a tube and blow up the stomach with air, which is of the greatest importance in the diagnosis of stomach conditions. It is of equal importance in the diagnosis of intestinal conditions. By inserting a rectal tube and inflating the rectum and colon, by means of percussion, as a rule, or if not by percussion in some fat individuals, then by putting a stethoscope over certain portions of the colon, (we can very easily hear the air as it passes through and can distinguish whether we have the stethoscope over the colon or over the adjoining portion of the abdomen), we can easily and accurately determine the size and position of the colon.

Dr. Price stated that severe pain in women always means organic changes. One condition which he has evidently overlooked is gastralgia, which occurs in neurotic women, as a rule at very irregular intervals, accompanied by most intense pain, often so excruciating as to require hypodermics for its relief. It may appear once and not recur for months or years, and is accompanied by no other symptoms as a rule. Many of these cases go to autopsy and absolutely no pathologic lesion is found in the gastro-intestinal tract.

B. F. Zimmerman: I am glad to have heard this excellent paper. As I understand it, Dr. Price did not attempt to elaborate on all symptoms and methods of diagnosis for obvious reasons; if he had attempted it we would have been here all night, and it is well that the gentlemen have brought out some of these other points in their discussions.

I wish to emphasize the last point referred to by Dr. Hays, that is, in regard to abdominal

pain. When we have abdominal pain, we are prone to lose sight of the fact that that pain may be due to some extra-abdominal condition. This has been very forcibly impressed upon me on a number of occasions. I have seen a man complain of pain in the appendiceal region when he had a pleurisy; I have seen two cases operated on for gall-stones when they had pain referred to the abdominal region.

I do not think we can afford to neglect making a thorough examination of the chest, or, as Dr. Morrison said of the nervous system, in the presence of abdominal pain. The pain is referred to the abdomen, and by making a careful examination of the thorax and of the central nervous system, we can often avoid mistakes, which are certainly very embarrassing.

B. J. O'Connor: The subject of diagnosis is one of the most important that could come before any society of physicians. I do not understand, however, how we can make any differentiation between surgical and medical diagnosis. The surgeon, if he practices good surgery, is bound to know as much about diagnosis as the general practitioner. Unfortunately, I think the surgeon frequently makes the mistake of looking at every disease from a surgical aspect; when a case is referred to him he immediately, so to speak, prepares his instruments.

While the paper is an excellent one, I think the essayist has omitted a great many things. I feel the examination of the patient should be perfectly systematic, commencing at the top of the head and going down inch by inch, taking in every organ, every vessel and every structure within each particular level.

I believe the essayist made a great mistake when he stated, if I understood him correctly, that the history can be taken during the examination. I do not see how one can make an intelligent examination of a patient until he has obtained the necessary data concerning the symptomatology of the illness. I agree with him that it is sometimes a very difficult matter to get a good description of the symptoms and course of the affection from the patient.

There are two sets of organs which the essayist omitted to mention, and which are of great importance to the surgeon as well as the general practitioner. These are the lymph vessels, and nodes, and the blood vessels.

I think the doctor also made a mistake in omitting to mention the action of drugs, or simple treatment, as a method of diagnosis. I recall one case in which, for three months, I treated the patient for cancer of the gall-bladder. Symptoms of peritonitis followed apparent perforation. A surgeon was called, but refused to operate. The history, which had unfortunately been purposely concealed from me, was, that 12 years previous to this time, this same patient had been treated for cancer of the rec-

tum, which after 6 months of morphine treatment, was found by a competent specialist, after a rectal examination, to be a simple case of obstipation. Immediately on hearing such a history, I started at both ends—drugs by mouth and injections by rectum—and relieved the “cancer” and all the symptoms disappeared. Three months after that the patient developed typical symptoms of gall-stones, so much so that the surgeon decided to operate, and the finding was a very unusual one, consisting of congenital stenosis of the whole colon, which was of smaller caliber than the small intestines.

I believe one important feature in making accurate diagnosis is to make it perfectly plain to patients that they must not conceal anything connected with their history, as it may have an important bearing on their present illness.

Oscar W. Doyle: I do not believe any man can tackle a subject as broad as this one and not make a few omissions. Dr. Price has covered the subject more fully than a great many of us could do, and what he omitted has been brought out more or less fully in the discussion.

I simply wish to mention two facts which I believe may be of great help in bringing out certain symptoms which may be concealed by the patient, or which he may not have discovered himself. First, we should be extremely careful in taking the patient's history, asking questions which may lead to points that will be of assistance in making diagnosis, and avoid having the patient answer the questions as they “think” we would want them answered. Second. Another important thing is to study the facial expression, appearance, modes of doing things, etc., on the part of the patient. Frequently such observations will give us strong “hints” towards certain lines of inquiry that will put us in proper line.

C. H. Harris: How many times have I heard members of this society say, in speaking of Dr. Weidner, “Isn't he clever?” I do not believe it is always due to ignorance on the part of the doctor that he is unable to find out what is the matter with his patient, but because he perfunctorily goes through the process of examination. What could be more satisfactory to the doctor than to be able to take a man's sputum and tell whether or not it contains tubercle bacilli? what could be more satisfactory to him than to be able to take the stomach contents and ascertain the degree of acidity? What could be more satisfactory to him than to be able to take urethral pus and tell whether or not it contains gonococci? The average man does not acquaint himself sufficiently with laboratory technic and methods to be able to do these things. One of the most satisfactory things to me in the practice of medicine is to be able, in tuberculosis of the kidney, for instance, to take the urine and ascertain for myself whether or not it contains

tubercle bacilli. It is very simple and would not cost very much for each one of us to equip ourselves for a little laboratory work, and I believe we would make better progress as doctors and do better work if more of us would interest ourselves in the laboratory methods of examining the secretions of the body. I have had this impressed upon me very forcibly in the last year or two. I used to send every specimen of sputum to the laboratory; now I examine that sputum myself and collect the fee for it myself. If I want to find out whether a woman has gonorrhea, I examine the discharge from the vagina and find out whether she has or not. Of course, I do not believe that all of us can go into tumors and tell their characteristics, etc.; we are not supposed to, but certainly all of us can do a little laboratory work. I believe the best thing the average doctor can do is to fix himself up a little laboratory and examine the various secretions of the body in cases which come to him, and besides it is very fascinating work.

Wm. A. Jenkins: I am inclined to think that we would be here for several nights if we attempted to take up every phase of this subject. Perhaps it would be better to turn our attention to a few general principles which would be of use in making us better diagnosticians.

It does not make any difference whether a man is a surgeon, a general practitioner, a specialist on the eye, an obstetrician, a gynecologist, or a specialist on diseases of the stomach, the *sine qua non* for making accurate diagnosis is the possession of a technic, and if anything is to be accomplished in the future it is only to be accomplished in this respect. Take, for instance, the surgeon. Nothing was more attractive to me, as a medical student, or more fascinating than to see a surgeon with quite an air of abandon open the abdomen and expose those exceedingly delicate structures, and at the same time relate incidents of his last trip abroad, or something of that sort. I was charmed. Now, what enables them to do this? Technic—going over the same thing in the same way, day in and day out, time and again, until by-and-by it becomes a second nature with them. And so it is with all diagnoses. If you can go from the toe-nails to the crown of the head and determine whether the organs are in proper position and in proper function, and if you have formed the habit and kept it up for years (as I have tried to do) of tabulating this work and always going over the same part in the same way, taking up the various systems, each in turn, and following them and studying them, and the various text-books and seeing wherein you could have improved them. I believe in this, and this alone, you have the key to the whole situation. Going over things in this way makes a man able to be at his ease in the presence of his fellows. If he is sure of himself, if he has

had reasonable experience in clinics and in consultation work, it gives him an ease at the bedside that he cannot acquire in any other way, and, sooner or later, he will make a good diagnostician, and will make true the old saying, "*Quo bene diagnoscit, bene curat.*" (Who is a good diagnostician is a good healer).

John W. Heim: I agree with Dr. Jenkins that, when a man has gone over a certain thing time after time, it finally becomes a second nature with him. Therefore, I think this is an age of specialists, and I do not agree with Dr. Harris that the general practitioner should do everything and charge the fees for it. I think certain things ought to be referred to the specialist in that line. I do not see how a general practitioner who has a large practice can find time to train himself sufficiently to recognize all these various germs that Dr. Harris spoke of, and, in my opinion, such things should be referred to the specialist who has gone over the ground so many times that it has become second nature with him, as Dr. Jenkins says.

Louis Frank: I wish to commend the very thorough paper which the essayist has given us. It is a most timely subject and one that has set some of us thinking.

I do not agree that it is only the technic of examinations which makes us better diagnosticians, just as I do not believe that it is only the technic of operations which enables to do that work better. I think the technic of making examinations is probably the least part of it; that the proper interpretation of the symptoms you get through your technic is the important thing. In answer to Dr. O'Connor, I may say that, taking surgeons as a class, they make more thorough examinations of their patients, as a rule, than does the general practitioner. I say this with no personal feeling of any sort. Probably the reason for this is that the surgeon, as a rule, examines his patient under such surroundings as of necessity makes the examination more thorough; that is, with the patient in bed and divested of all clothing. With the prospect of operating for the cure of the patient's condition in his mind, the surgeon is very careful to bring out any points which might contra-indicate an operation; or, in other words, which might make the operation itself a greater menace to the life of the patient than the existing condition. I do not believe this holds good in general practice. As a rule, the general practitioner does not divest his patient of clothing for an examination.

As Dr. Jenkins said, if we follow a system we are less likely to overlook important points, but, even so, it is the proper interpretation of symptoms that counts. It is useless to make a purely physical examination and ask a lot of perfunctory questions if we do not know how to interpret the answers we get.

This is a day of organization, as well in the practice of medicine as in the practice of surgery, and I do not believe, notwithstanding what Dr. O'Connor has said, that a man can be as good a physician as he can surgeon, or ophthalmologist, or obstetrician; the field is entirely too broad. As his time becomes more and more occupied, he must organize such a staff as will be able to do some of his work for him, get his histories, make his urinalyses, etc. If there is one lesson that I get from the paper more than another, it is that we cannot all specialize, and I think Dr. Harris makes a mistake when he does not encourage specialism along medicinal and bacteriological lines. We often hear the question asked: "Why does not some one limit his work to this or that line, as is done in other cities?" The reason is that the profession of this city will not support men limiting their work to those lines. I do not believe that any man can make a living in this city who devotes his time exclusively to the examination of pathological specimens. It is impossible.

The practitioner should know the value of these things; he should know how to interpret symptoms; he should know the appearance of things under the microscope, otherwise he has no means of checking the work of the men on his staff. I do believe this is an age of specialism, and we should co-operate and support each other in our various lines of work.

M. Casper: I have been practicing medicine long enough to have seen two ruts into which the average physician is likely to fall. The first is the man who sees so many simple and easily diagnosed conditions, such as grippe, etc., that it gets to be a routine matter and he does not look for deeper troubles, but dashes off a prescription, and it will perhaps be two or three days before he thinks seriously of the patient's condition. I think this is true of a great many general practitioners.

Another rut into which physicians are apt to fall is this: Some men when they graduate have a certain amount of knowledge latent, or stored up, and to this they never add. They may practice medicine for ten years and still be using the same old drugs and the same old methods as when they started.

The younger members of the society, like myself, ought to receive a great deal of benefit from this paper, and I think some one else ought to read another one along the same lines and every one discuss it. I think it would have been a good thing if every man in the house had discussed this paper, because they have all been thinking since they heard it and many ideas have occurred to them.

C. H. Harris: If a general practitioner fails to qualify himself to do certain kinds of work, what does his position finally become? If I have a man with something the matter with his

rectum, I send him to Dr. Hanes or Dr. Asman; if he has something the matter with his stomach, I send him to Dr. Lucas; if he has something the matter with his eye, I send him to Dr. Dabney; if I have trouble in an obstetric case, I must call Dr. Tuley or Dr. Speidel; if a man has something the matter with his chest, I must send him to a specialist in pulmonary diseases; if he has scabies, I must send him to Dr. Ravitch; if I have a kid with a broken leg, I must call in a surgeon. What do I finally become? A figure-head. Can I be blamed for trying to be something more than a figure-head, and letting some one else get the money while my kids go naked? I am simply looking out for business for the specialist. No, sir! I deliver a baby, or pull a tooth, or examine pus for gonococci, or sputum for tubercle bacilli, or put a tube in the larynx in diphtheria, or anything else. That is the position I have taken. When I went to medical college, I was taught that a man should be able to cut off a leg, do an appendectomy, or take out a uterus, and yet when he gets out in practice he finds that this or that man has set up as a specialist, and he sits on his chair while I go out and get business for him while my kids go naked.

J. W. Price (closing): I thank the gentlemen for their very kind reception of my essay; I am glad that it has set one or two of them to thinking.

In reply to Dr. Morrison's remarks about taking the reflexes, I intentionally omitted that point. I thought of it because I routinely take the reflexes, but I have never been able to diagnose a surgical disease by taking them, and I tried to limit the length of my paper by cutting out the nervous diseases, all of which, however, are intensely interesting. I think gastralgia belongs to the nervous class; the pain these patients have is very similar to the pain our hysterical patients have; certainly, it is not a pain due to organic lesions.

In speaking of the tongue indicating the condition of the gastro-intestinal tract, I did not have reference to the fur alone. I do not pay any more attention to it than does Dr. Davis. I have under observation at the present time a case of pernicious anemia, in which, from time to time, when putrefaction in the gastro-intestinal tract is marked there is found a catarrhal or a herpetic stomatitis. In examinations of the anaemic patients you will often find such a condition of the tongue as will immediately lead you to consider the gastro-intestinal tract as the possible seat of the trouble.

In regard to taking the history while making the examination. As students in the University of Pennsylvania, we were taught to take the history of the patient in one period of 45 minutes, and the next period of 45 minutes was devoted to the examination of the patient. That

made $1\frac{1}{2}$ hours. I progressed from the medical school into the hospital and there I found that I had to make an average of 15 ambulance calls in a day; therefore, I was compelled to make bedside examinations and take the history at the same time, and, as "necessity is the mother of invention," I soon learned to make the examination and take the history in less than 45 minutes for both. From my ambulance experience I progressed to a ward, into which ten to fifteen patients were admitted daily, and I not only had to write the histories but make the examinations, and not a few of them were foreigners who could not understand English, and an interpreter had to be called. Often I would ask a question and percuss, palpate and auscultate the patient's heart, and before he could answer I would know the condition of it. The same thing was true of the lungs and abdomen. I would go over the entire body, all the time taking the history. This is the method I followed and I mentioned it in the paper because I believe it will save time. Of course, after beginning practice I found that I had more time than I had in the hospital, but I still followed the method. If I sit down and take a complete history it will take from half an hour to forty-five minutes; I can make the examination and take the history in very little more than that time.

I sincerely recommend this method to you; it is certainly a time-saver, and it will also bring to your attention other parts of the body and enable you to decide whether or not to make special examinations.

For example, a rectal examination; I do not examine the rectum of every young lady who comes into the infirmary, but, if the patient gives symptoms referable to the rectum, then I do make an examination.

In regard to the use of drugs, I have never felt the necessity for the use of drugs in aiding me to make surgical diagnoses. I think it is of most value in making diagnoses of syphilis.

As to a man having a laboratory and doing his own laboratory work, I agree, to some extent, with my friend, Dr. Harris. Dr. Harris says that he can examine urethral discharge for gonococci. There is no reason why he should not, if he can do it as accurately as another man, and I think he should do it if he has the time. However, I do not believe it is possible for the majority of us to maintain a fully equipped laboratory and spare the time necessary for making all the tests. I admire a man who has the ability to make certain simple tests, such as examination of the sputum for tubercle bacilli, or pus for gonococci, etc. When it comes to gastric analysis, that takes more time, and, while it is a simple enough matter, I prefer to call in some one else to do it. As to microscopical examination of tissue, I do not believe a man can keep up in any branch of medicine, and still

keep his hands in touch with making sections, staining them, and be a skilful interpreter of what he finds.

As to having a blank, with a set lot of questions on it, to take to the patient's room or have in our office, I think this would be more or less impracticable. After a man has had proper training, I believe he would be better off without such blanks, because with them he would probably fall into a routine way of doing things and his mind would not expand. If a man had to have a set lot of questions to take into the patient's room, he would probably not know how to interpret the answers after he got them, and that is the important point; namely, the interpretation put upon the findings, either from the history or from the examination.

CLINICAL DEPARTMENT.

OPERATION FOR ASSOCIATED FEMORAL HERNIA, AND PERINEAL HERNIA THROUGH PELVIC FLOOR, ON THE LEFT SIDE OF VAGINA AND RECTUM.

BY WM. H. WATHEN, LOUISVILLE.

About eighteen months ago, Miss B., age 35, was referred to me by Dr. C. Z. Aud, of Cecilian, Ky. She had for many years a vulval enlargement on the left side extending from the pubis to the anus, which had grown to be much larger than the head of a new-born child. At no time had there been any evidence of infection, but the enlargement caused pain, and much inconvenience, because of size and pressure. I operated on her at the St. Anthony's Hospital.

An incision nearly four inches long was made vertically about an inch from the vagina and rectum, and careful dissections made. The tissues of the left side of the pelvic floor were greatly hypertrophied and distended. A large hernial sac from the pouch of Douglas protruded through the pelvic floor. This was dissected from its attachments and ligated high up, so as to restore the lowest peritoneum to about normal position. Further dissections exposed a femoral hernia three inches long and one and a half inches in diameter, lying between the skin and the anterior part of the levator ani muscle. This was separated from its attachment to a point above the femoral opening, and ligated. The tissues were so hypertrophied that it was necessary to cut away more than a half pound of skin, muscle and fascia before closing the incision by buried and superficial chromic catgut sutures. The femoral ring below the peritoneum was closed by a purse string suture

through the muscles and fascia.

The woman returned home after a few weeks, and Dr. Aud reports that there is no evidence of any return of the hernia.

I report this case because I have not been able to find another similar case recorded; and Dr. W. B. Coley, the distinguished authority on hernia, has never seen a case of the kind, and cannot refer me to any. Femoral hernia on one or both sides is often seen, but not associated with hernia through the pelvic floor. Nor do I know that in the male it has been seen on the same side with a maldescendal inguino-perineal hernia. The latter fails to enter the scrotum, and passes under the skin to the perineum, and lies below the muscles and fascia of the pelvic floor, while true perineal hernia passes from the pelvis through these structures. Hernia through the pelvic outlet is seldom seen, because the levator ani muscle, the coccygeal and ischio-coccygeal muscles, the transverse-perineal muscle, and the layers of fascia give strong protection; and it is probable that most of these cases occur in people in whom the pelvic peritoneum is congenitally abnormal and extends too low in the pelvis; it is possible that in some cases there may be primary gaps through the muscles and fascia of the pelvic floor.

Hernia through the pelvic outlet is usually in the female. In forty cases collected by Macready, thirty-four occurred in females and six in males. The hernia is usually through the pouch of Douglas, but it may pass in front of the broad ligament. The diagnosis is not always easy, and the condition may be confounded with vulval or vaginal cysts and abscesses. Ganz reports a case where a cyst was diagnosed and incision made, the patient dying later because of a protruding and gangrenous cecum: in another case several inches of the bowel were cut off. In the *Centralbl. f. Chir.*, 1879, VI. 303, Michaelson and Lukin, report a case operated on at the Kronstadt Hospital supposed to be a uterine polypus. An autopsy the following day showed that five inches of the transverse colon and a foot of the omentum had been excised. The hernia may grow very large, as in the case of Papen (1755), quoted by Macready. It extended to the calves of the legs and contained nearly all the abdominal viscera.

But few cases of operation for hernia through the pelvic outlet have been recorded, and no fixed rules of surgical technique have been adopted.

DISCUSSION.

Louis Frank: I have never seen a case of combined hernia such as Dr. Wathen speaks of. Some years ago, however, I operated on a young,

unmarried woman for perineal hernia. The hernia came down through the pelvic floor, through the pouch of Douglas, through the levator muscle and the levator fascia. I did dissection and closed up the opening in the muscular structures which had been made by the passage of the hernia through these structures.

It is remarkable that we do not have more hernias in this region than we do, because the structure of the vaginal floor is analogous to that in the inguinal range. The effect we have when these structures are torn by child-birth is practically analogous to a hernia; that is, the bulging of the rectum and vagina owing to lack of support of these structures. In the case I mentioned, about six years have elapsed since the operation (in which Dr. Hibbitt assisted) and the woman has had no recurrence of the hernia. I examined her a number of times during several years following the operation, and there was no evidence of recurrence of the hernia in this region. I looked up the matter at that time and found very few such cases reported, and I was unable to get much data on the subject.

I think this is a most interesting case and am glad Dr. Wathen has put it on record in the transactions of the society.

REPORT OF TWO CASES OF A KERNEL OF CORN LODGED IN THE RIGHT BRONCHUS WITH REMOVAL BY DIRECT UPPER BRON- CHOSCOPY.

BY GAYLORD C. HALL, LOUISVILLE.

The recent development of instruments of precision that enables a direct inspection of the air passages deeper than the larynx, of the esophagus and even the stomach bears abundant testimony, first of the necessity of such work, and secondly of the unsatisfactory state of the surgery of these regions prior to the development of this method.

THE REMOVAL OF FOREIGN BODIES IN THE AIR PASSAGES.

Under the older methods by tracheotomy combined with irritation of the mucous membrane to incite the cough reflex, hoping that the body would thus be brought into the wound; or the more dangerous procedure of passing forceps and groping about hoping to come in contact with the foreign body produced a very respectable mortality; to such an extent in fact that many practitioners were reduced to the policy of waiting for expulsion through the natural passages rather than submit their patients to the dangers and uncertainties attendant upon the operative procedure itself.

The hopeless condition that these unfortunates found themselves in stimulated work on

this line and a practical solution of the difficulty has been brought forward after many years of effort, principally through the work of two men, Prof. Killian, of Freiburg, and Dr. Chevalier Jackson, of Pittsburg.

Without going farther into the history and development of this new branch of surgery, suffice it to say that it is now possible to see directly the larger part of the air passages for the purpose, not only of inspection, but for diagnosis of obscure conditions, the location and removal of new growths and of foreign bodies, as the following cases illustrate.

Case 1. Patient L. B., age six years, Horse Cave, Ky. Referred by Dr. D. C. Donan. On December 1st the little girl inhaled a grain of corn; this was accompanied by the usual choking, cyanosis and cough, which gradually ameliorated as the body passed the vocal cords, to be succeeded by paroxysmal cough and choking spells when the particle in the trachea was forced against the under surface of the cords and momentary spasm of the cords supervened.

The parents, who lived far into the country, called local physicians, whose efforts to dislodge the offender proved unavailing and the child was taken to Horse Cave, where Dr. Donan referred them to me by telephone and told me to have everything in readiness for dealing with the case on December 4th, three days after the accident.

The examination on arrival in the city showed the child in a bad general condition. Respiration 34; pulse 130; temperature 99.5. Spells of choking frequent; loose cough; loud sonorous rales over both lungs. Child had eaten a lot of trash on the train, including bananas and peanuts and was on the whole a bad subject for anaesthesia. This, however, was skillfully administered by Dr. E. T. Bruce, who soon had the patient ready for inspection. The direct laryngoscope was first introduced and inspection above carefully made, after which the small bronchoscope was passed without difficulty to the bifurcation of the trachea.

The right bronchus being the usual point of lodgment for foreign bodies it was first inspected and the corn was found impacted there near the bifurcation.

It was swollen and soft, so that while it was possible to grasp it with without difficulty, they bit through, making it necessary to remove the particle piecemeal. This was a long and tiresome procedure, but we finally succeeded in removing the greater portion of the offender after about one and one half hours of hard work, when the accumulation of mucus in the bronchus and general condition of the patient forced us to desist.

This we did with deep regret, got the pa-



Two cases of Kernel of Corn in the Bronchus removed by upper Bronchoscopy.

tient to bed and administered stimulants. She soon reacted and about three hours afterward coughed up the remaining portions of the corn as a soft mass. For some days the condition of the patient was dangerous, with a high temperature and an extremely rapid pulse and respiration. No signs of pneumonia could be detected and after about five days these symptoms subsided, giving rise to a normal or subnormal morning temperature and an evening rise.

The general condition of the patient improved remarkably and she was bright and cheerful except when asked to take medicine.

The only complaint following the extraction was pain referred to in the region of the larynx, due to the stretching of the cords by the instruments. The voice was unaffected after the second day.

Patient was taken home on the ninth day in good condition, but still running a little temperature in the afternoon. Very little cough, lungs of normal resonance.

Case 2. J. S., age five years, Owensboro, Ky. Referred by Dr. D. M. Griffith. The case was almost an exact counterpart of the first and occurred five days later.

Two days previous to operation child had inhaled a grain of corn, causing momentary symptoms, which speedily passed away. Efforts at extraction proved unavailing and patient was referred to me.

When patient was brought to the office he was without symptoms and appeared perfectly comfortable. Pulse, temperature and respiration normal. Examination of lungs showed occasional moist rale over left lung and on right behind. On the right side and in front

breath sounds were completely absent.

Deeming this sufficient to localize the body the patient was sent to the hospital and prepared for operation.

Assisted by Drs. Bruce and Henderson the patient was anaesthetized and direct upper bronchoscopy preceded with. Greater difficulty was experienced in bringing the cords into view than in the previous case, but after slight delay the bronchoscope was passed and the body brought to view deep in the right bronchus.

It was impacted and soft; the same difficulty was experienced as in the previous case on account of the friability of the body and it had to be removed piecemeal.

This was done, however, much more thoroughly than in the first case and in much less time; barely an hour elapsed from the beginning of the anaesthesia until the patient was in bed. He reacted promptly and was in good condition the next day, when despite my protests the parents insisted on returning home.

As the literature on this subject is very recent and but one book has been published in English, I take the liberty of quoting Dr. Jackson, the author, on some features of the work.

The Roentgen Ray. In all cases even in those where there is little hope of the foreign body showing opacity to the ray, a radiograph should be taken if the conditions are not urgent. If there is very urgent dyspnea, there should be no delay, not only on account of the urgency, but because the dyspnea itself is an indication that the foreign body is in the larynx or trachea, or at any rate not

lower than a main bronchus.

Indications. Tracheo-bronchoscopy is indicated in any case in which the presence of a foreign body in the trachea, bronchi, or lungs is suspected. It is not wise to hesitate because of a lack of certainty of its presence.

Of 94 cases of tracheo-bronchoscopy, upper and lower for foreign bodies, collected statistically for the author, the *corpus delicti* was found and extracted in 78 or 85.1 per cent.

The cases of failure were those in which:

1. Inorganic substances as pieces of kernels or nut or grain, beans and the like had swollen and become impacted and buried in a minute bronchus; or, (2), In which there was a stricture above the site of lodgment; or (3), In which there were such grave symptoms that the procedure had to be abandoned.

Contra-indications. The author's views are rather radical on the subject, but he does not consider anything an absolute contra-indication to tracheo-bronchoscopy in a patient known to have a foreign body in the trachea or bronchi, as the patient is very much safer without the foreign body than with it, no matter what the condition may be.

Dangers. The dangers of tracheo-bronchoscopy in general are but little more than those of anaesthesia except in cases of severe dyspnea.

Pneumonia and bronchitis when they occur are far more likely the result of the condition calling for the tracheo-bronchoscopy than of the procedure itself.

The dangers of leaving the foreign body alone, in these days of perfected endoscopic technic do not merit lengthy consideration. But as the relative gravity of prognosis will arise in nearly every case, and occasionally a relief of the days of blind groping in the dark, will be encountered in opposition to tracheo-bronchoscopy, the dangers of the "let alone" plan require mention. They are, briefly, bronchitis, bronchiectasis, pneumonia, abscess, gangrene, cirrhosis, pneumothorax, and possibly tuberculosis.

The degree of danger, of course, varies with the nature, shape and size of the foreign body, its position and the condition of the patient.

Roe collected 1,417 cases of foreign body in the air passages, in which no extraction was attempted. There was a mortality of 27%.

Of 94 cases of bronchoscopy, upper and lower together, collected for the author, nine died, making a mortality of 9.6 per cent. Eliminating six that were in bad condition and probably would have died without operation, the mortality may be placed at 3.2 per cent.

Summing up, the prognosis of tracheo-bronchoscopy is good if the operation be not

postponed until the patient's condition has become serious. Other things being equal, the prognosis is the better the sooner the foreign body is extracted.

In conclusion the author's opinion is that we do full justice to our patients when we tell them that while the foreign body may be coughed up, the chances of this are remote and it is very dangerous to wait; and further, that the difficulty of removal increases with each hour the body is allowed to remain.

DISCUSSION.

Albro L. Parsons: I think Dr. Hall ought to be congratulated. I wished very much for Dr. Hall about one o'clock last night. I was called about that time by a man who is a neurasthenic, who said he had arisen to eat some peanut candy, and that he had sneezed or coughed and supposed he had inhaled some of the candy into his trachea. I was very much alarmed about him and wished for Dr. Hall to help me make diagnosis. His voice was natural, he was not coughing, and, as far as I could judge over the 'phone, he seemed to be in pretty good condition. I told him to come to see me in the morning. He asked me what he should do in the meantime and, before I could suggest anything, he asked: "Don't you think a porous plaster on my chest would help?" It told him it might, and the next day I met him on the street and he said he was all right.

G. C. Hall (closing): I have nothing further to say except that bronchoscopy in children is much more difficult than in adults, for this reason, that the size of the bronchoscope is limited by the space between the vocal cords. A 5 mm. tube is the largest that will be admitted by a child's larynx, and the difficulties we experience after the forceps are placed are due to the fact that we must work in the dark, since the forceps completely fills the tubes; in other words, we must shove the bronchoscope down against the foreign body and trust to the sense of touch in grasping it. In older patients, the glottis will admit a much larger tube, and it is quite feasible to pass the bronchoscope to the second bifurcation, and still be able to remove the foreign body with ordinary forceps now in use.

So few men have done any work along this line that it is still in the development stage, but I have no doubt these things will be remedied later on.

Serum, Diagnosis of Syphilis and the Butyric Acid Test for Syphilis, by Hideyo Noguchi, M. D., M. Sc., Associate member of the Rockefeller Institute for Medical Research, New York, 14 illustrations. J. B. Lippincott, Publishers, Philadelphia and New York. Price \$2.00.

HOOKWORM DISEASE; WITH REPORT OF CASE.

BY J. T. DUNN, LOUISVILLE.

Now that the eye of the public as well as the profession has been turned to this newly found disease, and having recently treated a case which so far as I know is the first case to be reported in this section, this report may prove to be of interest and profit.

Why called Hookworm Disease?

Because the series of symptoms presented in these cases are due to infection or lodgment in the intestinal tract of the *Uncinaria* or hookworm, so called from its resemblance to a hook. It is about one-fourth to one-half an inch long and about as thick as a small hairpin. It has hard cutting plates or jaws guarding the entrance to its mouth, with the aid of which the parasite fastens to the intestinal wall.

"A person may harbor a few hookworms, or several hundreds, or several thousands, according to the amount of infection to which he has been subjected. As children are usually subject to infection more than the adults, the disease is usually more common in them."

HOW THE HOOKWORM DEVELOPS.

These parasites do not multiply in the intestines, as their eggs require oxygen in order to develop. It is important to recall that for every hookworm found in the bowels a separate germ (young worm) must enter the body.

The parasites in the bowels lay hundreds of eggs, which are discharged by the patients in their stools. An ordinary stool from an infected person may contain thousands of these eggs. This is an exceedingly important point to remember, for it is only through the discharges from the bowels that these eggs escape from the patients, and if all such discharges are properly disposed of, hookworm disease can be stamped out of existence.

A few hours after the eggs are passed by the patient a young embryo develops in the egg and escapes from the egg shell. This tiny worm which is scarcely visible to the naked eye, feeds for a few days. Within about a week it sheds its skin twice, in somewhat the same way that a snake sheds its skin. It now continues to live in the cast-off skin, but it takes no more food until it enters a person.

HOW THE HOOKWORM ENTERS HUMAN BEINGS.

The young worm may enter persons in two different ways. First, it may be swallowed in contaminated water or food. Secondly, it may bore its way through the skin. This second method of infection is doubtless the more common. The young hookworms in boring through the skin produce an attack of "ground itch" (also known as "foot itch,"

"dew itch," "dew poison," etc.) Thus quite generally believed that the wearing of shoes will prevent ground itch, and this popular belief is correct to a great extent, namely, so far as ground itch on the feet is concerned; wearing shoes will therefore reduce but not eradicate hookworm disease.

After entering the skin, these young worms make their way to the blood, and pass with the blood through the heart to the lungs. From the lungs the parasites pass up the windpipe, down the gullet, through the stomach, to the small bowels, where they gradually shed their skin two more times, become mature, and then begin their work of injuring the wall of the intestine, of sucking the blood, and of poisoning their victims.—(Stiles.)

Referred by Dr. J. W. Guest.

History: Miss K., referred by Dr. J. W. Guest, age 24, admitted to Norton ton Infirmary, January 26, 1909, from Alabama. Gave following history. While in Washington, D. C., 1899, was taken ill and confined to bed about two weeks. Diagnosis, anemia. After a little improvement, was removed in sleeper to her home in Alabama, where she was confined to bed for weeks, improvement being very slow. Nourishment and tonics were given. Upon advice of family physician was taken to Memphis, Tenn., and treated. A milk diet at regular intervals was prescribed in addition to treatment formerly prescribed by family physician. Convalescence was a little more speedy following this plan, and soon was able to go driving. The following fall, 1900, bowel trouble developed and continued two weeks, and during which time suffered great pain at stool. Recovery was slow and in January, 1901, went to San Antonio, Tex., and after six weeks returned home unimproved. Some improvement followed this Texas trip, however, and was better than at any time since first became sick. Summer, fall and winter 1902 was in fair health, but spring and summer of 1903 was able to go about, but was far from well, and following Christmas of that year was confined to bed for weeks. After a little improvement, was taken to New York, and Asheville (1904), where she made some improvement and in the fall, 1905, had a similar attack, and a few weeks in San Antonio made no improvement in the condition. In the spring of 1906 some improvement was made and the summer was spent on east coast. In August she returned to her home and was confined to bed for five weeks, and as soon as she could be moved was again taken to New York for treatment, without material benefit. Loss of blood per rectum, had become a symptom and was more profuse and

appeared with greater regularity than formerly. General weakness was more marked, January, 1909, than ever before.

The family physician in Alabama recites the following history under date of January 20, 1909:

"The young lady has been a sufferer with anemia for a long time, with periods of convalescence. The first time was about six or seven years ago, and lasted several months. Then she recovered almost, if not entirely, and for a year or more enjoyed good health. She then became anemic again. It worked on the pernicious order, and for about a year this continued. Then she got better again, and now she is suffering the same way.

These periods covering over quite a time have been accompanied with all the usual concomitants of anemia, with constipation, as the leading symptom, always present. Lack of appetite, no pain anywhere, not much headache, a very little tachycardia; and the gradual loss of weight and paleness attendant always in such cases.

"One symptom, and the one which prompted my sending her to you, has been the continued loss of blood at stool. I have never examined her in this way nor treated the hemorrhoidal condition. Only after a long time, I became convinced that the pernicious anemia was due to such loss of blood, and should be attended by a specialist. There has been no evidence of uterine or ovarian trouble and I am satisfied if you can stop the loss of blood, you will solve the main part of the trouble.

"We thought all the trouble would be over when she matured, but that time has been long passed, and the anemia continues. At the same time, there is not enough pelvic trouble outside of the hemorrhoidal condition, to account for the distressing symptoms. It has been a gradual running down. An anemia with periods of improvement, almost restoration, but only to relapse again."

History given me was a repetition of that given by the family physician. I have never seen a more marked case of anemia in my experience. Conjunctive, eyelids, lips, finger nail, skin, in fact there were no signs of color on any part of body surface. The mucous membrane in mouth exceedingly pale. Temperature under tongue was 97.2-5, pulse 76, resp. 18, systolic murmur. Rectal examination digital, negative. With speculum (inverted position) negative, suspecting ulcer of stomach or duodenum, Dr. Chas. Lucas was asked to see case and gave negative opinion. Urinalysis was made by Dr. Jno. Hayes as follows: S. G. 1.014, acid present; urea 4. Blood analysis was made by Dr. E. S. Allen as follows:

January 26, 1909, hemoglobin 28%, red cells 2,800,000, white 4,000.

Remarks: A most profound anemia.

Footnote: Dr. Dunn, may I suggest looking in feces for hookworm (uncinaria)?

Signed

E. S. ALLEN.

Following is report of fecal analysis:

February 1, 1909: bile abundant, fat and blood abundant. Food detritus present: parasites; Ameba Coli and uncinaria. Ova: Ameba Coli and Uncinaria.

Signed,

E. S. ALLEN.

Dr. Allen being from Alabama, had seen some cases of hookworm and declared this to be a typical case upon first inspection.

The fecal analysis confirmed his diagnosis and the following treatment was instituted. Purgative dose of calcined Magnesia given at 9 P. M., followed by high enema at 6 o'clock A. M., with good result.

Milk and broth diet ordered for three days. January 30, 1909, 9 o'clock, A. M. Thymol grs. 30 were given, followed by hypo of strychnia gr. 1-30; the latter was ordered repeated every four hours, simply to counteract any depression caused by the thymol.

Temp. was 98.4-5; pulse 80; resp. 20 at the beginning of treatment. Two hours later another 30 grain dose of thymol and at 12:30 one-half bottle of citrate magnesia were given. 4:15 P. M. vomited clear fluid with some mucus. 4:20 stool thin light yellow, specimen saved. 5 P. M. temp. 99; pulse 98; resp. 20; 7:10 P. M. one-half bottle citrate magnesia given. 7:40 def. small thin yellow. 9 P. M. enema, sol. returned colored with particles of feces. 9:30 nauseated.

January 31 had a good night. 6:20 am. def. small thin light yellow. 12 m. def large thin yellow. 12:30 temp. 99; pulse 88; resp. 20. Fecal specimen for several days saved and examined under microscope by Dr. E. S. Allen, who, I am glad to say, found an abundance of not only hookworm eggs, but the worms themselves, and will exhibit them to you this evening.

Thymol was repeated at end of one week. Preceding its administration with cathartic as before and at 8 A. M. and 10 A. M. 30 grains thymol were given, followed at 12 by ol Ricinone ounce, and 5 P. M. resulted in good bowel movement, medium thin and light.

Following the administration of thymol, pulse increased from 86 to 102, tem. from 98.3-5 to 99.3-5; resp. not disturbed.

On the following day 12.50 A. M. def. med bloody with particles of white substance and one large dark blood clot recorded. Pulse dropping to 84; temp. 99.2-5; resp. 20.

During the remainder of her stay, at frequent intervals, a large blood clot would accompany stool. Aside from an abscess on the back incident to the too diligent use of hypodermoclysis, her stay was uneventful. Feeling confident that the real trouble had been discovered and removed, she was permitted to return to her home February 19, 1909, to complete the convalescence. Glyco-Phospho-Caliso with strychnine and liquor potas arsenitis being the medicine recommended. On April 1, 1909, six weeks later, on account of occasional passage of blood from bowel and fearing that all parasites had not been eliminated, she returned for examination. The improvement shown in the blood analysis at this time as compared with the first is very striking, as the time was a little less than six weeks and is as follows:

Blood—April 1, 1909, hemoglobin 40 %.

Red cells 3,360,000, white 4,895.

Fecal examination was negative both before and following another round of thymol. Rectal examination failed to throw any light upon the source of hemorrhage, and I am still of the opinion that the hookworm had infested the intestines so long and the power of resistance so reduced in the mucous membrane that ulcers produced by these organisms were still eroded, but in time would heal and the loss of blood be arrested. A letter recently received from her states that she is still passing blood and is at a loss to know what to do. The possibility of it being due to ameba found by Dr. Allen in his report, since we have been hearing so much about this organism, has impressed itself upon me to such an extent that I have written the patient to return for further treatment.

DISCUSSION.

E. S. Allen: Just prior to seeing this case of Dr. Dunn's, I made a visit to my home in Alabama, and Dr. Carson, of Greensboro, told me he had several cases of hookworm disease in the hospital. I saw one case while I was in Alabama. The anemia was very marked in this patient, and I was reminded of him as soon as I saw Dr. Dunn's patient. The very pale skin, pale conjunctiva, the haemic murmur and the very low blood count, all made me suspect a case of hookworm disease, and I took the liberty of suggesting to Dr. Dunn that he have a test made to demonstrate the hookworm. Dr. Carson told me that he had seen numerous cases of hookworm disease in Alabama and had treated them for various conditions. He told me of a patient that had been treated by several physicians for heart trouble. He had a murmur, his limbs were dropsical, he had ascites, and he was very anemic and weak. One or two cases, he said, had died; one diagnosed as Bright's Disease, and

the other as tuberculosis, but he said there was no doubt in his mind that both were cases of hookworm disease.

Before I studied medicine, I taught school in Alabama and I am certain that I saw four or five cases of hookworm disease there. Two children whom I taught were very pale and anaemic, feet swollen at times, easily fatigued, and looked almost bloodless. Of course, I had no idea what the trouble was then, but, as compared with cases that I have since seen, the picture was so typical that I have no doubt that they were cases of hookworm disease.

Vernon Robins: During the meeting of the American Public Health Association at Richmond, Va., I was informed that hookworm disease had been found in that city; first of all in the Blue Ridge foot-hills, and later around Richmond itself. The essayist voiced the presumption that a great deal of this disease would be found in Virginia, and if Virginia has it, of course Kentucky has also; at least, that is a reasonable presumption. It seems imperative, therefore, that we make investigations in our own State, and I hope members of the society who have opportunities to do so, with the assistance of those who have charge of the different institutions, will make some very careful search along this line.

We are informed, through authoritative sources, that not only should we suspect those who are markedly anaemic, of harboring the hookworm, but also those who are apparently in their best of health. Therefore, it seems to me that if we take it upon ourselves to investigate the various institutions, we might as well dispense with counting blood cells and haemoglobin, and go at once to the examination of feces for the hookworm itself.

It occurs to me that, as thymol seems to be the drug most frequently used, if we are going to do a great deal of this work throughout the country, the price of thymol will be apt to take a jump.

Herbert McConathy: I saw a good many cases in Porto Rico while I was there, but they were not diagnosed as such. I made several autopsies upon those who had died of the disease, and I can corroborate Dr. Allen's picture of extreme anemia. The flesh is waxy and often puffy, even the face, and especially the legs and feet. On post-mortem you will find a dilated heart and nearly always a nephritis. I was in a mountain town and had no microscope and no means of examining sections, but nephritis was nearly always present as well as dilation of the heart and extreme anemia. Dr. Ashford, of the army, diagnosed the first cases shortly after I left the island. It is found most frequently among the mountain people, where the climate is moist and the natives always go barefooted. People who

live in good houses and wear shoes are rarely affected with the disease. During the times of starvation there the disease seemed to take a fresh start, most likely owing to the general debilitated condition of the people, and many hundreds of them died of hookworm disease plus starvation.

Carl Weidner: I have never seen a case of hookworm disease in this or any other city, although I have been looking for it for the past ten years. In every case of severe anemia, pernicious or otherwise, I have paid particular attention to the possibility of uncinaria, but have never found it.

The essayist omitted to mention an important change in the blood. Blood examination has almost uniformly shown, besides anemia, a marked increase of eosinophile cells, so much so that it at once attracts attention to the probability of some parasitic intestinal affection. At Porto Rico and Panama, blood examinations showed fifteen to twenty per cent. eosinophiles.

I would like for Dr. Dunn to say, in his closing remarks, how he administers thymol. I know that is the drug that is most frequently used in these cases.

I was astonished to hear Dr. Dunn speak of the large quantities of blood in the stools in the case he reported. I had always thought that the blood appeared in minute quantities. In former years it was thought the anemia was due to hemorrhage from the duodenum, but I think that theory has been abandoned, and the anemia is now explained on the basis of toxemia from the secretion of certain poisonous products of the worm, causing haemolysis and capillary hemorrhage.

The American hookworm differs from the European, not only in its anatomy, but in the mildness of the infection caused by it. At the meeting of the State Society here, the surgeon of the Marine Hospital informed me that in Panama, where he had spent five years, the disease was looked upon as a very mild affair; and, as a matter of fact, we know that Europeans who have investigated the matter, report that ninety per cent. of the population of Porto Rico are infected with the disease, and still there are comparatively few deaths from it.

Louis Frank: Ordinarily, I do not take a great deal of stock in newspaper and magazine articles, but a most excellent article on this subject appeared recently in the McClure's Magazine, which I am told by Dr. Stiles is absolutely authentic. The young lady who wrote the article was associated with Dr. Stiles for six

months while he was in Alabama. Dr. Stiles' address at the meeting of the Mississippi Valley Medical Association in St. Louis, was materially the same as this article.

If I remember correctly, Dr. Stiles demonstrated the hookworm at St. Louis, but his specimen was obtained from a dog, which, while it looks very much like the one shown to-night, does not produce a similar effect upon the dog as the one which inhabits the human.

Dr. Stiles said that the hookworm was brought to this country by the negro, and that the negro has become immune to the hookworm; in other words, while the negro may have the hookworm in his body, it does not produce any bad effects, its long residence in the negro race having established immunity.

In regard to the question of hemorrhage, it was believed for a time that the anemia was brought about by direct loss of blood, but this has been shown to be not true; that it is largely produced by a toxin which has a haemolytic effect upon the blood, and which the hookworm begins to secrete when he attaches himself to the intestinal wall in order to liquify the blood and enable him to get it that much more easily. It has been established, however, that direct hemorrhage continues for some time after the parasite has made an opening in the intestinal wall and, in the presence of a large number of worms, it will be readily appreciated that the hemorrhage may be of some consequence. This would depend largely upon the point of attachment of the parasite, with respect to blood vessels and the extent of the opening it makes.

One very interesting part of Dr. Stiles' address in regard to the mode of entrance of the hookworm into the human body and its route to the intestinal canal. Dr. Stiles learned the method of entrance by accidentally spilling some water containing the hookworm on his hand, which was followed by a burning sensation accompanied by redness of the skin. Upon investigating he discovered that entrance is effected when the body comes in contact with wet soil containing the hookworm; thence it goes through the tissues into the lung, out of the lung into the bronchi, out of the bronchi into the oesophagus and is carried down into the intestinal tract and produces the result which we know as hookworm disease.

I think it is very probable that, if it be made a routine practice to examine the feces of all extremely anaemic persons, we would frequently find the hookworm to be the cause of the trouble, and we would not have so many cases

of so-called primary pernicious anemia as we have had in the past.

B. J. O'Connor: I desire to speak to only two points. First, in regard to the pathology of the blood in hookworm disease. Dr. Weidner has very properly suggested the eosinophilia as being a very important diagnostic factor. In hookworm disease the eosinophiles run anywhere from 2 to 20 per cent. of the total number of leucocytes; at times the count will be high and at other times it will be low, according to the stage of the disease. More important than this, however, is the presence of an intense anemia without any of the characteristic blood changes of pernicious anemia. Strictly speaking, the diagnosis of pernicious anemia lies in the blood. While clinical manifestations may give you an index as to the possibility of pernicious anemia, it is impossible to make positive diagnosis without such an examination, and it is impossible to differentiate hookworm disease from pernicious anemia, unless, on the one hand we find parasites, or, on the other hand, characteristic evidence of pernicious anemia. Another thing that will aid in differentiating between them is the color index of the specimen. If the hemoglobin is, say 40 per cent. and the red blood count 2,000,000 the color index is said to be 1. In pernicious anemia the color scheme is always either normal (one) or over, usually over; the average red cell contains the average amount of hemoglobin.

Another point is in regard to the prognosis in pernicious anemia. While hookworm disease or uncinariasis is not a dangerous disease from the standpoint of fatality, it undermines the resistive power of the individual to other infectious diseases. Any physician located in those sections of the country where this disease is most common will tell you that these patients will go along for years and years; the average case being more than ten years in duration, and that, until some other intercurrent disease supervenes, death does not occur. The mortality is really due to the reduced resistive power of the patient to other diseases.

G. S. Hanes: I do not believe that we have persistent hemorrhage from ulceration of the mucous membrane of the bowel, unless it is very acute or in such cases as cancerous growths. The hemorrhage we have from these chronic ulcerations is always very mild and is always mixed with fecal discharges. Many times you will find that it is only microscopical in appearance. When this patient returns to Dr. Dunn, he will find, upon examination, that, on account of the patient's constipation, this hemorrhage comes from the anal canal. I have seen these cases time and again, where there was hemorrhage, and upon looking up in the bowel for ulceration or some pathological condition, the hem-

orrhage was found to be due to an erosion of some small vessel in the anal canal. These vessels support a column of blood that is several inches in length, and just where the vessel is weakest there is where we have the greatest amount of pressure, and it is here that erosion of the mucous membrane occurs and allows the blood to gradually seep through. I am sure that there is no blood coming from the mucous membrane high up in the gut in Dr. Dunn's case. I have seen many cases of ulceration of the mucous membrane in the gut and I have never observed hemorrhage from it except it was slight and mixed with fecal discharge. In all the cases of amebic dysentery that we have had I have never seen excessive hemorrhage; it was always slight and mixed with the fecal discharge. Ulceration was often extensive.

The most difficult portion of the lower alimentary tract to examine is the anal canal. Proctoscopic examination as ordinarily made will not disclose the conditions here, and we have not an instrument that will enable us to properly examine it. No man can put his finger into the rectum and detect that little erosion that may be responsible for hemorrhage. The best way is to have the patient strain and then put him in position and see whether there is hemorrhage in the bowel. If you see no ulceration, the hemorrhage is due at the point I designated.

J. T. Dunn (closing): I have examined this patient two or three times, very carefully, both without and without a speculum, and at no point could I find anything that would lead me to suspect that there was a possibility of a drop of blood escaping. I examined her in the inverted position with a long protoscope. I found no signs of hemorrhoids and she does not give any history of soreness about the anal orifice.

The hemorrhage is not mixed with fecal discharge; it is discharged as a clot, separate, you may say, from the stool, and it is not any greater in quantity in a costive stool than in a watery movement. It is not a vicarious menstruation, because the patient menstruates regularly, and I am really at a loss to know where the hemorrhage comes from.

Just a word in regard to the effect of the hookworm upon the prognosis in other diseases. In Stiles' government report there are some interesting figures. If I remember correctly, when the United States took charge of the prison at Manila, the death rate was something like 235 per 1,000 per year. After thorough sanitation had been established, the death rate fell to about 75 per 1,000 per year. They were unable to lower this figure for two or three years, until the hookworm was found to be present in some of the patients. A clean sweep was made and every prisoner was given thymol, with the result

that the death rate fell to 13.5 per 1,000 per year.

In regard to Dr. Weidner's question as to how thymol is given, I will say that 30 grains is usually administered in two 15-grain capsules, given at the same time, and this is repeated in two hours. That is a rather large dose of thymol.

Just here I would like to call attention to the fact that thymol is soluble in alcohol and in oils. For that reason, neither of these should be administered with the thymol, because the result is almost certain to be poisoning of the patient, and some think that even milk taken with the thymol will produce this result. One case is reported in which the patient was taken suddenly ill following the administration of the second dose of thymol with milk. Therefore, it is best not to give castor oil after the administration of thymol.

Dr. Robins has just asked me what station in life my patient occupies. I should say that she is far above the average. She is a member of a well-to-do family, and the fact that she is infected with hookworm, "dirt-eater's disease," as she calls it, is very humiliating to her, and she has not told any of her home people the nature of her trouble.

Stiles says that, while the negro is partially immune to hookworm disease, he is still a prolific source of contamination, because he very rarely uses any form of toilet, and it is through soil pollution that the disease is obtained. The negro is not affected by it like a white person, but he is much more free in scattering the seed.

EXTERNAL URETHROTOMY.

BY J. A. O. BRENNAN, LOUISVILLE.

Some time ago a man, 47 years old presented himself at my office suffering with what he termed "chills and fever," and stated that he also suffered a great deal from stricture. I prescribed for the chills and fever and, when he came to my office on the following day, I sounded him for stricture, and found that I could not insert even a bougie of the smallest caliber. After attempting to force an entrance five or six times, I finally succeeded in getting a filiform in. After several unsuccessful attempts to get more than one in, I sent him to the hospital and did external urethrotomy. On the morning of the operation I was unable to pass even a filiform bougie, due to the urethra being in a more or less inflammatory condition. I then determined to do the Wheelhouse operation, which is nothing more or less than external urethrotomy without a guide. I cut down in front of the contraction and tried to gain entrance through the urethra, which I found to be more difficult than I had anticipated. I was finally successful, however, and

removed, I suppose, six or eight ounces of residual urine. He remained in the hospital for two weeks and then resumed his former occupation, which is that of a waiter. I am now able to pass a 27 French and in a few days I hope to be able to pass at least a 29 French. I will be glad to have you look the patient over.

The stricture was in the lower portion of the urethra. The wound in the perineum has not quite healed, but the patient has control over that and it only leaks occasionally. I am not anticipating much trouble from that source. The cases frequently go for some time without healing.

I. N. Bloom: I have nothing to say that you have not heard before. There are cases in which we can get a filiform through by the exercise of a great deal of patience and after a number of failures, and after we get one through, we can, by persistence, get others through and gradually increase the number. I have in mind three cases which I have seen in the past two years in which a filiform was gotten through, but no further progress could be made.

In many cases it is extremely difficult to do an external urethrotomy without a guide, cutting down into the urethra and then attempting to find your way into the bladder. I failed in that three times. In all three of these cases we had to do Cock's operation, with the finger on the edge of the prostate. In two cases the result was brilliant; in the third, doubtful. I believe dilatation is the best where possible, and persistence makes it possible in many apparently hopeless cases. Where we can get a filiform through and continue until we get large numbers up to 14 to 16, and then commence with a 16 or 17 metal instrument and gradually dilate the stricture, we can accomplish more than by operation and with less risk. However, where you cannot do this, external urethrotomy is preferable. This enables one to cut down on the stricture and with good technique, to get an instrument through; but I always feel that it is a great piece of luck when I can do this.

Herbert Bronner: At the recent meeting of the Mississippi Valley Medical Association, E. O. Smith read a paper on the subject of stricture, in which he made the statement (which was corroborated by some of the best men in the West) that 98 per cent. of all strictures are capable of dilatation; the consensus of opinion being that with certain exceptions, only traumatic strictures require operative procedure, which should always be external urethrotomy.

W. C. Dugan: I just want to indorse the sentiment voiced by Dr. Bloom that external urethrotomy without a guide is one of the most trying operations I know of. However, I be-

lieve it we will keep our anatomy well in mind and keep the field clear of blood, we will succeed if we only persevere. I have been fortunate in never having failed to get to the bladder, but I have many times been on the verge of giving up.

J. T. Dunn: I have had occasion in one or two instances, to introduce a filiform bougie, and I have never been able to make up my mind to remove it once I had it in, the patient being immediately sent to the infirmary and operated upon. I usually remove the section of the urethra in which the stricture is located, introduce a catheter for drainage and allow the incision to close by granulation.

Jno. R. Wathen: I would like to mention something of value in these blind operations in the urethra. Young, who has had a great deal of experience in prostatic work, has devised a valuable instrument. It is a bifid retractor with two bulbs on the ends and with a handle running off in this direction (illustrated by drawing). In these blind operations we are apt to have considerable hemorrhage. The anatomy of this region has been studied in prostatic work better than ever before, but I wish to show you how to deal with the question of hemorrhage. First, make a straight simple incision, cutting through the skin, fat, etc.; then lay the knife aside and with the finger push this in either direction. After doing that, skin back all the structures down to the muscles and tissue in the upper portion of the incision, and you will then see the central tendon and the fibres going over the external sphincter. Then take scissors and gently nick through the central tendon. When you have done that, take this prostatic instrument and push it forward and downward, and the urethra, being in the middle, will stand out in front, and then with your fingers you can feel the hard mass which marks the stricture. In this way you have avoided any hemorrhage outside of the skin incision. I have used it a number of times in prostatic work without a drop of hemorrhage. When this instrument is introduced, you have two pieces pulling down in this direction and you have the urethra standing out and the muscles can be pulled apart by blunt dissection.

Dr. Brennan (closing): I only wish to add that, before this patient came under my observation, he had been under the care of three or four other doctors. From having read of the experience of other operators, I realized that the operation, while not exactly dangerous, would be rather tedious, and it was only after numerous unsuccessful attempts to get in more than one filiform that I decided to operate. Had I been successful in getting in more than one filiform, I would have done internal instead of external urethrotomy.

A CASE OF BUPHTHALMOS.

By W. T. BRUNER, LOUISVILLE.

Female, white, age, when first seen two weeks, now eleven months. Family history good. Nothing of a hereditary character that would throw any light on the cause of the trouble. The attending physician reported an instrumental delivery, with forceps properly applied and no pressure marks.

No symptoms referable to the eye were noticed for several days after birth. The first symptom that attracted the attention of the attending physician was a redness of the left eye, and upon exposure to light there was some photophobia. There being no discharge from the conjunctiva, ophthalmia was excluded. The condition not improving I was called in about the 14th day after birth. The left eyeball at that time showed a general redness with considerable photophobia. The baby would only open her eyes when in the dark.

An examination showed the eyeball enlarged in all of its diameters with increased tension. The cornea was hazy, the sclera bluish and the anterior chamber deep with cloudiness of the aqueous. We could not see much of the iris, and the lens and fundus could not be seen at all. The next day the color of the media had changed to a darker hue and two or three days later it was of a deep mahogany color, looking very much like we had an intra-ocular hemorrhage to deal with. The eyeball continued to enlarge and the tension to increase and it soon became apparent that he had a case of buphthalmos to deal with.

In this rare and very peculiar malady there is a general and slowly progressive enlargement of the cornea, anterior part of the sclerotic and iris together with extreme deepening of the anterior chamber, with increase of tension. The corneal changes are often very conspicuous, the cornea often becomes hazy and semi-opaque. The disease, which may perhaps be looked upon as a congested glaucoma, is either present at birth or comes on in early infancy and usually causes blindness. The disease seems to depend upon the failure of the filtration angle of the eye to open during foetal life, as it does normally. There is a consequent increased inter-ocular tension which ultimately leads to a decided increase of all the diameters of the eyeball, causing it to appear much larger and more prominent than normal, hence called ox-eye. The sclera is thin and bluish in appearance, due to the uveal pigment showing through it. The iris is tremulous and the pupil dilated. The lens is the only part of the eyeball that retains its normal dimensions. The anterior

chamber is deep while in glaucoma it is shallow. Its difference in external appearance from the glaucoma of adults is accounted for in the main by the physiological properties of the eye in childhood. The extensibility of the sclera in childhood renders it possible for the heightened pressure to result in enlargement of the eye as a whole. In the eye of the adult, however, the rigidity of the sclera permits of its expansion through increase of pressure only at its weakest spot, namely, at the lamina cribrosa.

I saw the baby again this morning. She is now eleven months old. The left eye is almost as large again as its fellow, and is strikingly conspicuous. It is no longer sensitive to light. The anterior portion of the eyeball on account of the proptosis, is greatly exposed to injury, and the cosmetic appearance is not at all pleasing to the family and friends. The cornea shows here and there dense opaque areas and there is a very dark triangular shaped area in the sclera at the inner canthus, its base is at the limbus and is about four millimeters wide, the apex extending into the sclera about three millimeters, which means that the sclera is very thin at that point and is apt to give way before long. Doubtless there is also a cupping of the disk.

DISCUSSION.

Adolph O. Pfingst: This case is very interesting and I think it deserves some discussion. As the doctor says, cases of this kind are rather infrequent; I do not remember having seen but three such cases outside of the one I had the pleasure of seeing with Dr. Bruner.

This case possessed some points of more than ordinary interest. While the other cases I saw presented simply a distended cornea and sclera, this one had a decided deposit in the anterior chamber, which, when I first saw it, was brownish, causing it to look like the pigment of the ciliary body. Another feature of interest is that the eye was supposed to be normal at birth, though there is some question about that.

The most important question is the management of this case. We can readily see that an eye of this kind will be useless, and the question is whether to remove it now or allow it to remain awhile. I believe I would allow the eye to remain unless it becomes very large or unless it causes suffering, the idea being that the presence of the natural eye will allow the orbit to develop.

If the operation is decided upon either now or later I would remove the cornea and interior of the eye, leaving the sclera for the insertion of a Mules' ball, which would not only insure more motion, but would help orbital development.

W. T. Bruner (closing): The interesting feature of this case is the effect it will have upon the general appearance of the child; the deformity which will result from this enormous eye will be quite a misfortune to the little girl, who is otherwise a beautiful child. The left orbit is now larger than the right orbit. The question first discussed when I saw this case was the advisability of allowing the eye to remain in the orbit with the idea that the growth of the eye would cause a corresponding growth of the orbit. Today that orbit seems to be larger than the other orbit and the question is whether to leave the eye in any longer. I am rather inclined to believe with Dr. Pfingst that the eye should be removed at once.

Treatment of these cases is very unsatisfactory. Irdeotomy has been done in a few cases with not very good results; in the majority of cases this operation has proved disastrous. The only other treatment which offers any hope is eserine and pilocarpin, and these have been tried in this case without any results.

ASTHMA IN A CHILD 14 MONTHS OLD. (REPORT OF CASE).

BEN CARLOS FRAZIER, LOUISVILLE.

Last June I saw a child, fourteen months old, with asthma; and, by the way, this was the first time I had ever seen asthma in a child of this age. I inquired of the mother whether the child had had anything out of the ordinary to eat recently, and she assured me that it had eaten nothing whatever except to nurse from her breast. She said that on the day before I saw the child, its grandfather had taken it out for a walk, and when it came back it had slept for about two hours and wakened in this paroxysm of asthma. She treated it during the night and I saw it about noon of the following day. I prescribed a purge and told the mother to report to me in a few hours if not relieved. The child was not relieved and I saw it again that evening and gave it a small dose of Dover's Powder, to be repeated every two hours until relief was obtained. On the following day the child's condition was so bad that I asked for consultation. Up to that time there had not been very much cyanosis. The doctor who saw the child with me insisted that cold packs be placed around the neck and chest. However, this did not seem to do any good. Some hours later the child seemed to be almost dying. The same doctor was again called and insisted that the child be given chloroform. However, it grew steadily worse and died about midnight.

A few minutes before the child died, in talking to the grandfather, I learned that he had given it some salted peanuts on the day

he took it for a walk.

I report this as being a case in which the trouble was due to undigested material in the child's stomach; there is no doubt that the child died as a result of eating salted peanuts.

DISCUSSION.

Gaylord C. Hall: I would like to direct Dr. Frazier's attention to the probability that this child died from respiratory failure, due to a peanut in the bronchus; that seems to be the most reasonable explanation.

GYST OF THE ORBIT.

(REPORT OF CASE).

BY S. G. DABNEY, LOUISVILLE.

This patient, a girl about 13 years old, was brought to me by her mother because of a pushing forward of the upper lid of the right eye. The mother remarked that when the child was born she had noticed a little swelling there and thought it was a birth-mark. It had remained stationary up to within six months of the time I saw her. It was clearly a cyst, movable and somewhat firm in character, situated behind the lid in the upper and outer portion of the orbit. I show the cyst here, which is about as large as a good sized bean.

The instrument I used in its removal may be of some interest. It is simply intended to hold the flaps of skin open and I suppose it could be used in a good many little skin operations. The instrument itself was devised by *Mueller*, of Vienna, for the removal of the lachrymal sac, and for that purpose it is very useful indeed.

As might be expected, the girl made a complete and uninterrupted recovery.

These cases are not so easily diagnosed. I have one at present in a young lady of 30 years, who has a similar growth in the orbit, which appeared when she was about 28 years of age, without any history of anything wrong with her eye before that time. In this case the cyst felt to me harder than in the other case, and at first I felt considerable anxiety for fear it might be a sarcoma. However, after reaching a certain stage, it failed to develop any further. I believe, therefore, that, after the lapse of two years we may rest assured that it is not malignant, but is probably a simple cyst of the orbit.

While I am on the floor, I would like to exhibit another specimen of bone formation in the interior of the eye. This patient was a man who had been injured by being stabbed in the eye, and he had lost his sight and the eye had shrunk. However, it did not feel as hard as I think it ought to have felt

with this amount of bone in it. This little specimen, as can be seen, is an almost perfect cast of the interior of the eye, and just at the back can be seen the point where the optic nerve came in. In this case there was some danger of sympathetic ophthalmia and, anyhow, I think any eye that is shrunken, red and tender, ought to be removed.

In this connection, I have lately had two or three patients who were very bad subjects for anesthesia. One of them was a man who was a very hard drinker, a great big, flabby, fleshy fellow, weighing between 250 and 300 pounds, with a rather weak heart and poor kidneys—not a very good subject for anesthesia. In such cases I have found operation to be very simple and satisfactory by cutting all the muscles of the eye under cocaine, simply injecting it under the conjunctiva in the the front portion of the eye-ball, and then cutting the ciliary and optic nerves, which is the most painful part of the operation, under gas anesthesia.

J. W. Heim:—What was the advantage of giving cocaine to cut the muscles; why not use gas all the way through?

S. G. Dabney:—Because gas anesthesia would hardly last long enough to complete the operation. There are two ways of doing an enucleation. One is to carry the scissors rapidly around the eye-ball cutting all the tissues. The nicer, though longer way, is to take up each muscle on a tenotomy hook and cut each muscle close to the sclera, and gas anesthesia would hardly last long enough for that.

J. W. Heim:—How long does it take to complete the latter operation?

S. G. Dabney:—About fifteen minutes. My own experience with gas has been that it does not last more than a couple of minutes or so.

DISCUSSION.

J. W. Heim: I see no reason why, in this case, gas could not have been given for the entire operation. In my opinion, if the operation entailed any pain or inconvenience whatever to the patient, gas would have been better than cocaine. The length of time necessary to complete the operation would cut no figure at all, so far as danger to the patient is concerned. My experience has been that the only trouble in keeping them under the gas is that the anesthetist gets tired, as it is very hard work. I have kept up gas anesthesia for forty-three minutes without any trouble to the patient, but I got very tired myself. I do not see any reason why gas could have been used all the way through in Dr. Dabney's case. In most operations under cocaine the patients complain very much.

W. T. Bruner: Dr. Dabney has shown a very interesting specimen. These cysts of the

orbit are usually dermoid in character and, therefore, congenital. However, this cyst, I believe, is not of that character. They usually occur in the anterior portion of the eye and, therefore, we do not have the symptoms usually caused by other tumors located far back, such as exophthalmic tumors growing in the upper (I do not know that they ever occur below) and internal portion of the eye-ball.

The treatment, of course, is complete extirpation of the cyst, as, if any portion of it is allowed to remain, the cyst is apt to recur.

Gaylord C. Hall: I have been very much interested in Dr. Dabney's report, and particularly the ossification of the choroid. I had a similar case not long ago in a woman who had been stuck in the eye with an arrow when she was two years old. This eye was completely blind and shrunken. In the last few months she began to complain of pain and spots in the other eye, indicating a beginning sympathetic ophthalmitis in that eye. I did an enucleation of the injured eye and found ossification of the choroid.

In regard to anesthesia, I have tried the combined method (using cocaine sub-conjunctivally), but instead of using gas, an anesthesia which I very much prefer, both for these operations and for the removal of adenoids, is ethyl bromide. It comes in sealed tubes, is easily administered, lasts about two minutes, and I have never seen any complications result from it. I prefer the ethyl bromide to gas because of the entire absence of congestion and discoloration of the face, which is so prominent in gas anesthesia.

J. W. Heim: How do the mortality statistics of ethyl bromide compare with those of gas anesthesia?

Dr. Hall: I cannot answer that question fully because I have not the figures at hand, but I believe the statement was made some time ago that ethyl bromide is probably the safest of all anesthetics. In my own experience I have never seen any bad effects follow its use, and I have used it quite frequently. The patient is entirely rational within five minutes, and it is not unusual for a patient to leave the office within half an hour after removal of adenoids, perfectly comfortable and without any after effects.

Dr. Dabney (closing): The discussion seems to have turned mainly on the question of anesthesia, which was merely incidental.

I have had dental work done under gas and I have always gone straight back to my work; therefore, my own personal experience would go to show that there is not much harm in taking gas; I have never seen any ill effects from

it in any way. My impression was that nitrous oxid gas is a little safer than either somnoform or ethyl bromide. I was much surprised by Dr. Heim's statement that prolongation of gas anesthesia does not increase the risk of the patient. In all the cases in which I have seen it prolonged for more than a minute or two, the color of the patient was very disagreeable to observe, and I was under the impression that the risk was increased. I am very glad to hear the doctor say that statistics do not confirm that impression.

PROLAPSUS ANI.

(REPORT OF CASE).

BY R. E. SULLIVAN, LOUISVILLE.

I would like to make report of a case that I saw about three years ago. I was called one night to see a patient about 60 years of age, with prolapsus ani, which was the largest I have ever seen or heard of. The prolapse was equal in size to an ordinary punching-bag. Another doctor had been called first to wait on the patient, and I want to say that my hands never got such a cleansing as they did that night, trying to delay matters until the other doctor arrived, but I finally had to do something. The prolapse had been out about two hours and I tried to replace the bowel with one hand, but it was not large enough, and I then tried both, but could not bring a sufficient amount of pressure to bear. So I concluded that the best thing to do was to take ordinary gauze and place it over the bowel and replace it, and I got my fist almost as far as up into that rectum as I ever got in a vagina. I then put on a "T" bandage, tied a gauze pad below, and used adhesive strips crosswise over the buttocks. On the following morning I gave him 1-30 gr. of strychnin every 3 hours, for the reason that he had suffered with diarrhea all day and was pretty thoroughly exhausted. I had him to kneel on a chair the following morning, with his mouth almost touching the floor. Then I took half an ounce of tannic acid and half an ounce of alum and mixed with warm water, and then poured this into about a quart of cold water, and injected it with aid of a fountain syringe into the rectum. I again used the gauze and adhesive strips and requested that it be allowed to remain in there about three hours, after which it was removed and the patient continued on strychnin and the use of tannic acid. This man, over my protest, returned to work as a laborer on the fifth day, but no ill effects followed. He never had a recurrence except once, about

six months afterwards. He died two years later of pneumonia.

DISCUSSION.

Bernard Asman: I think Dr Sullivan deserves to be congratulated upon the recovery of his patient after these extreme measures for the reduction of the prolapsus recti. The fact that it had been out for such a short time probably accounts for the fact that it did not recur. I think perhaps the doctor looked at this through a magnifying glass; however, we often do see very large masses protruding from the anus.

As to treatment, the results seem to indicate that his treatment was the very best, although it is hardly the one usually employed. The treatment will depend upon the kind of prolapsus to be dealt with. If the protrusion begins at the point where the floating bowel reaches the fixed bowel, then, as a matter of course the operation would differ from that wherein the normally fixed portion of the bowel has been torn loose. In that case the treatment would consist in replacing the bowel in normal position and holding it there by suture until healing has taken place. That can be done very well. I have done this operation (which might be called rectopexy) a number of times and reported several cases to this society in which it was done successfully. If, however, the prolapsus begins higher up in the bowel, just at the junction of the fixed and floating bowels, or even higher, opening the abdomen and doing a colopexy would be indicated.

I do not know whether Dr. Sullivan did this or not, but I would certainly suggest that, in all cases where a large prolapsus is to be returned to the bowel, the patient be given an anesthetic and inverted, and the bowel very carefully handled; otherwise, great damage may be done.

A NEW DEVICE FOR MINIMIZING PAIN AND PREVENTING INFECTION OF WOUNDS IN ANO-RECTAL SURGERY.

By BERNARD ASMAN, LOUISVILLE.

It is a generally admitted fact, especially by the laity, and also by those of the profession who have suffered from certain forms of ano-rectal disease, that, in proportion to the amount of pathology, few other diseases are at all comparable in the severity of the pain produced. It is also well known that deeper anesthesia is required in operating about the ano-rectal region than in any other part of the body. In view of these undeniable facts, it is not surprising that pain, often very severe in character, is frequently met with as a post-operative complication; yet not a "complication," according to some very reputable authors, but as a condition to

be expected as a matter of course.

Years ago the writer became convinced that much, in fact, most of this pain was unnecessary, and could be controlled, or possibly prevented entirely, if certain modifications of the operations then in vogue were made feasible, and if certain radical changes in the wound dressings and the post-operative treatment in general were instituted. Observing carefully a long series of cases, extending over a period of several years, some of the conclusions reached were:

1. That ligating tightly a large piece of tissue (a hemorrhoid for instance), containing many nerves, even though only small branches, produced, in practically all cases, a great deal of pain, in some amounting to agony.

2. That the spasmodic contraction of the sphincter muscle, seen in most cases, although in varying degrees of severity, was an important factor in the production of post-operative pain.

3. That wounds left open to heal by granulation frequently became infected from feces containing pyogenic organisms, thus delaying healing and resulting in an irritating discharge for weeks afterwards.

4. That unless some provision is made for the escape of gas, it will accumulate in the large bowel, following rectal operations, giving the patient much discomfort or pain, and making necessary early defecation.

5. That contraction of the anus, with its attendant disagreeable features, is very likely to follow the healing of open wounds (especially if infected) encircling the anus.

6. That the ano-rectal region is in close relationship to the sympathetic and cerebro-spinal system, and that severe pain in this region makes a profound impression upon the general nervous system and gives rise to many reflex troubles.

But little time was required to demonstrate clearly that, if the ligature operation is to be used at all, it should be greatly modified. Instead of making a groove, or cut, through the skin, beginning at the mucocutaneous junction on one side of the hemorrhoid and terminating at the mucocutaneous junction on the other side, placing the ligature in this groove and tying tightly around the hemorrhoid, as originally recommended, nine-tenths of the pain can be prevented if the cut around the hemorrhoid is made not only through the skin, but carefully continued upward, dissecting the hemorrhoidal tumor from the healthy tissue, stopping only when a point is reached which is directly opposite the innermost margin of the hemorrhoid, as determined by the forefinger of the opposite hand in the anal canal;

the ligature then applied will constrict only the mucous membrane and the large vessels which are always found just under the mucous membrane. Thus it will be seen that but few nerves will be contained in the ligature, yet there is no interference with the proper function of the ligature, for its purposes are to control the larger vessels and to prevent the retraction of the mucous membrane up the bowel. Objections to the clamp and cautery, and other recognized operations, might also be cited if time permitted. But another operation, similar in performance, and productive of equally good, if not better results, and practically painless, is made perfectly feasible by the use of the little device which I wish to present to the Society this evening. I refer to the excision operation, long known but little practiced, because of the danger of infection from fecal matter passing over the line of sutures. In this operation each hemorrhoid in turn is carefully and completely dissected out and the resulting wound closed by immediate suture. At completion of the operation the device referred to, which, for want of a better term, I have been calling an Anal Dressing Tube, is inserted. It will be observed that this tube is somewhat suggestive of a spool in shape, is about two inches in length, about half an inch in diameter, at the point where the sphincter rests, and has two flanges, the one at the lower or outer end being at right angles to the tube, and the upper one funnel shaped, the convex surface resting just above the upper surface of the sphincter, and the concavity directed upward into the bowel. Thus it will be seen that any wound beneath the funnel part of the tube is kept clean and dry and is absolutely protected from fecal contamination: pus, gases, mucus, blood, fecal matter, etc., being collected in the funnel, and delivered outside the external flange, far beyond the internal dressing which covers the wound. The upper flange is kept in close apposition to the upper surface of the sphincter, thus preventing leakage around it, by gauze wrapped around the tube inside the external flange.

These tubes are made in five sizes, the one presented tonight being the largest. It is, of course, very important that the proper size be selected to suit the individual case. When this is done, the wound, or wounds, are absolutely protected, and the tube may be left in place just as long as desired, the patient, as a rule, not being aware of its presence unless told. This protection from infectious discharges from the bowel and from fecal matter containing pyogenic organisms, makes perfectly feasible the immediate closure of all clean wounds of the ano-rectal region. Many cases of ano-rectal fistulae may be

dealt with in this way, thus not only saving the patient a great deal of pain, but shortening, by at least two-thirds, the post-operative period of active attention to the wound.

In excision of the rectum for malignant disease, or otherwise, the method is, for obvious reasons particularly valuable. Operations for the restoration of a damaged sphincter muscle are frequently necessary. If a good result may be expected, it is clearly evident that union must be secured by first intention. This is practically impossible without effective means of protection from fecal contamination. In wounds that are not surgically clean and that, therefore, may not be immediately closed, applying the same principle that governs in surgery in other parts of the body, the tube is of use in preventing an added, or mixed, infection, and in preventing the major part, if not all, of the post-operative pain. It is not uncommon for patients, even with the very worst forms of ano-rectal disease, to maintain that they suffer absolutely no pain following the operation.

An examination of the tube will at once suggest some of its more important properties. Its shape makes it perfectly comfortable, thus permitting its retention as long as may be indicated. The opening through its entire length makes possible the escape of gases as they form; the funnel-shaped arrangement serves to collect and to direct outward through the tube, any blood, pus, mucus, liquid fecal matter, or other substances, which otherwise would come in direct contact with the wound, thus causing pain and probably infection. The tube at the point at which it is engaged by the sphincter, offers a smooth, yet firm, support or rest for that muscle, thus preventing the spasmodic contractions so distressing to many patients after ano-rectal operations. With the tube in place and strips of gauze applied carefully over the wound and wound around the tube between the peri-anal tissue and the outer flange, this covered by a good sized piece of cotton, held in place by a snugly-fitting perineal bandage, a supporting dressing is furnished, which might be compared to a splint, placing the parts practically at complete rest.

DISCUSSION.

G. S. Hanes: The question of infection about the anus and rectum is, indeed, an interesting subject. Since, however, the majority of wounds made in this part of the body by operative interference are not closed by suturing and, therefore, remain open to heal by the process of granulation the matter of infection ceases to be of such vital importance from an operative standpoint. It is a fact that open wounds in this locality very rarely become infected. Of course, all such wounds have upon their surfaces mu-

merous pathogenic bacteria, but the prevailing conditions do not permit of their entering the tissues in such a way as to result in infection.

There is, however, an important anatomical reason for the prevention of bacteria passing out into the less vital peri-anal structures and, therefore causing their infections. The anus is not an orifice as it is usually supposed to be, but it is a tangible canal with walls and lumen as well defined as in any other division of the alimentary tract. It has a substantial muscular wall through which infective agents meet much difficulty in passing. The upper portion of this wall is formed by the levator ani muscle, the middle portion by the internal sphincter muscle and the lowest portion by the external sphincter muscle. The most vulnerable portion of this entire wall is the line indicating the overlapping edges of the middle and external sphincter muscles. The great majority of infections emanating from lesions in the anal canal pass out through this insecure line of junction. There can be no doubt that infections would be more frequent in the structures surrounding the anus if it were not for the anatomical security of these muscles.

In an operation for piles we really remove the inner covering or lining of the anal canal, which if it were not for the protection I have just described would allow easy escape of bacteria into the poorly nourished peri-anal tissue. It is a well known fact that it is almost beyond surgical skill to remove the whole or any part of the rectum without consequent infection to some extent. In such operations there is no protection to the cellular tissues surrounding the rectum and it therefore, becomes infected by the pathogenic germs that are always present in this locality.

Now as to the instrument Dr. Asman has invented and a description of which he has given, I will say that I think that it is quite a unique device but the chief claim of merit he makes for it would, I believe, not stand the most rigid scientific test. I refer to its use as an agent to prevent infection after operations along the anal canal. It is not difficult to see that any number of microscopic objects could safely secure themselves between this apparatus and the adjacent tissues. I would be led to believe that it retards proper drainage to an open wound and thus serves to prevent healing rather than facilitating it. Again it must not be forgotten that ligatures and pedicles of the pile tumors are attached to the anal wall and the product of sloughing tissue must drain away. Retention in this way would also be harmful.

As to pain it has been my experience that no foreign body, such as the one under discussion, can remain in the average rectum longer than two, three or four days without causing irritation and, therefore, painful muscular contrac-

tions. Of course, weak, flaccid muscles in debilitated patients never contract very much.

It is my custom to wrap a little gauze around a rubber tube which is about the size of the index finger, and over this gauze there is wrapped one or two layers of rubber tissue. This makes a perfectly smooth surface and prevents the tissues from imbedding themselves into the meshes of the gauze. The tube can be made either large or small by the amount of gauze around it according to the requirements of the case. If there is fear of hemorrhage no rubber tissue should be wrapped around the gauze, as hemorrhage will be much more perfectly controlled. This should be done even at the risk of causing some pain when the tube is removed. When rubber tissue is used around the tube it can be removed with little or no pain whatever.

It matters not what objections may be urged against the use of a device of some kind in the anus, for at least two or three days, after operations for hemorrhoids the experienced and fair minded operator must concede the fact that its benefits far exceed undesirable features. I am, therefore, glad that Dr. Asman is in sympathy with this method of procedure and has become interested to such an extent as to invent an instrument that will do two things, and these are the only reasons for placing tubes in the rectum after operations. First, for the escape of gases, and second, for the prevention of hemorrhage should there be such a possibility.

Bernard Asman: I would like for Dr. Hanes to say why he does not believe that this device would act as an occlusive dressing?

G. S. Hanes: No mechanical appliance can be placed in the anal canal with such close proximity to the tissues as to exclude the presence of microscopic bodies.

Louis Frank: It has been my experience that the greatest pain comes from lack of proper paralyzation of the sphincter muscle by dilatation before doing the operation, spasm of the muscle itself. Furthermore, the introduction of large dressings into the bowel increases this. It has been my observation that the less we put into the rectum after operation, and the smaller the appliance to afford an outlet for gas, the less discomfort and trouble the patient will have.

The question of infection about the rectum is one that is not of great importance. It has been my practice in late years to do all operations for hemorrhoids with actual cautery, and I have seen no trouble and very little, if any, pain following. However, I have done a number of operations by using No. 2 catgut, sewing the mucous membrane over and introducing a small tube covered with gauze and rubber tissue, and no bad results followed in any of these cases. As soon as the packing is removed the discomfort ceases. The greatest complaint is from the foreign body in the canal.

Bernard Asman (closing): By infection was not meant a general septicemia, simply a local infection of the wound under consideration. That this does occur unless the wound is specially protected is universally recognized and proven by the fact that heretofore nearly all rectal surgeons have left their fistula wounds open to heal by granulation, knowing that infection would take place if suturing were attempted.

Perhaps I did not explain the way this tube is used as fully as I should have done. The tubes are made in five different sizes and it is essential that the proper sized tube be selected to suit the individual case. When the operation is completed, and the patient is still under the anesthetic, it is a very easy matter to insert the tube, after which it is carefully drawn down until the inner flange rests on the upper surface of the sphincter muscle. If the operation has been done for hemorrhoids, no matter whether by ligature, actual cautery or excision, the wound will necessarily be under this funnel-shaped arrangement of the tube. Then with strips of gauze, wrap the tube, placing the gauze first next to the wound and continuing to wrap until the space between the wound and the outer flange of the tube has been filled, which will hold the funnel-shaped arrangement closely down over the sphincter.

This shape is one that I selected after a great deal of experimentation in endeavoring to get one that would effectually protect the wound and yet not hurt the patient, and I will say that, after having used it for two years, the average patient will not know of its presence in the rectum unless he is told of it. That he is made very much more comfortable by it, there is no doubt.

I do not believe it is possible for any infectious material to get down around the device if the proper sized tube is used and is properly adjusted, because, when inspected 48 hours after the operation, the dressing is found to be still dry. It is my aim to always have the wound practically dry of all blood when the tube is inserted, allowing for a little oozing of blood into the gauze, and that, when it dries, closes or seals the wound completely. All the fecal discharge, mucus, etc., comes out through the tube and cannot in any way come in contact with the wound or line of sutures. In from 12 to 24 hours after the operation, there is always a quantity, perhaps half a thimbleful and in some cases much more, of mucus found in the dressing that is outside the external flange. Now, if this mucus were not brought out through the tube, it would necessarily have bathed the wound surface and infection would have resulted. If infection does not occur in this way, why is it that, following operations for piles, we so often have a slight discharge for weeks

afterwards?

The removal of the tube is not painful. When the time comes for removal the patient is given an injection of water. The nozzle of a fountain syringe is inserted in the distal end of the tube and water is allowed to flow into the bowel until the rectum is completely filled. The natural inclination is to expel the water, which causes the sphincter to relax and the tube is easily removed, without pain. I call attention again to the fact that a tube the size of the one exhibited is used only when there is a very loose condition of the anus; in other cases a smaller size is used. Ordinarily I keep it in the bowel five or six days, and the reason it is possible for it to be retained this long is that gas, as it forms, is afforded an outlet.

There are two or three other uses for this device which I did not mention. One is in controlling hemorrhage. Not long ago I operated upon a man who is haemophilic, and I believe I would have had great difficulty in controlling the bleeding had it not been for this device. I packed gauze around the device tightly, and with a firm bandage over it the wound surface was held almost as tightly as if it had been between my finger and thumb, and even then there was some little oozing of blood into the gauze. Without some such device, great difficulty would have been experienced in controlling the hemorrhage.

MEDICAL PROGRESS, DEPARTMENT OF INTERNAL MEDICINE.

BY CARL WEIDNER, LOUISVILLE.

Treatment of Gout.—Gout may be defined as a disease due to disturbed uric acid-metabolism, resulting in undue retention of uric acid in the blood and the deposition of the insoluble sodium salt (mono-urates and quadrinurates of sodium) in the fibrous tissues and cartilages about joints.

While formerly uric acid was looked upon as an end-product of albumin in metabolism, Kossel and E. Fischer have proven that it is derived from the purin bases—from the nucleins and nucleinic acid, the change taking place through the agency of certain uricolytic ferments. If a person in health is fed on food rich in nucleins, he excretes more uric acid, while in the gouty patient the excretion of uric bases is prolonged, slowed and lessened on account of this deficient uricolysis. According to Umber who has made investigation of the metabolism of gouty and normal individuals, the elimination of uric acid in the gouty follows typical curves. The amount of uric acid grows less and less until the onset of an acute attack of gout, when there is a rise in the curve. This rise reaches its maximum height

two or three days after the onset of the acute attack. Then there is a gradual falling off in the uric acid elimination to amounts below the normal during the intervals between the attacks. These curves of uric acid excretion are typical of gout, as Umber shows by comparison with other diseases in which there is a uric-acidemia. In demonstrating the failure of the tissues to rid themselves of the small amount of endogenous uric acid, even after prolonged use of purin-free foods, Umber's results confirm the researches of Brugsch and Schüttenhelm. When food rich in nucleins is taken by the gouty patient, the excretion of exogenous uric acid is much slower than in healthy persons. Umber concludes from his studies that there is no medicinal treatment of gout except measures to relieve the symptoms during the acute attacks. In the intervals our main attention must be paid to the proper diet. The gouty person should never take more than 200 grams of meat a day and when an attack is impending no meat should be allowed. It is further advisable to arrange several purin fast days in each week, and thus give the body the opportunity to eliminate its excess of uric acid.

As in all general disturbances of metabolism this regimen must be kept up for months and years in order to avoid the later severe consequences of this disorder. Drinking large amounts of pure water aids in the excretion of uric acid, but, contrary to long accepted opinions, Umber declares that alkaline waters do more harm than good. None of the alkaline mineral waters has any specific effect upon gout and this is especially true of the lithia waters. He thinks that none of the various remedies against the uric-acidemia has any effect, since it is not the amount of uric acid in the blood that causes the trouble, but the deposition of sodium urate in the tissues. The blood is always able to dissolve more uric acid than it contains. Umber does not know of any remedy that will dissolve the deposit of sodium urate.

Falkenstein (Berl. Klin. Woch. Nov. 18, 1907 and page 1649-1908) advises the use of hydrochloric acid in the treatment of gout on the following principles and views: By defective gastric digestion substances are brought to the tissues in an unfit form; that by the administration of hydrochloric acid the proteins are more readily broken down and consequently less nitrogen remains in the body, and that with an increased output of nitrogen there is a diminished formation of uric acid. Furthermore the body alkalies are diminished by the hydrochloric acid treatment, and therefore there is a lack of the necessary alkalies to combine with the uric acid and form the insoluble urates of

pneumonia. Bronchitis accompanying nephrosodium.

For similar reasons Falkenstein prefers the use of Sodoglodine (a combination of iodine with vegetable proteid) in the treatment of gout. Sodoglodine takes up sodium and potassium from their combinations and is excreted in the form of iodide of sodium or potassium, thus withdrawing alkalies from the body. He also believes that Sodoglodine increases the excretion of nitrogen and diminishes the formation of uric acid. He gives it in tablet form after meals over long periods of time, gradually lessening the dose.

II.

TWO NEW CHEMICAL REACTIONS IN SPUTUM FOR DIAGNOSIS BETWEEN BRONCHIAL AND PULMONARY DISEASE.

(a) *Albumen Reaction of Sputum.*—*Technic:* Mix the sputum with water; add a few drops of acetic acid to coagulate the mucin; filter. Test the clear filtrate for albumin either by heat or by concentrated solution of ferrocyanide of potassium. Cloudiness or precipitation indicates the presence of albumin.

Albumin is *absent* in simple acute or chronic bronchitis; when *present*, it indicates a disease of the parenchyma of the lung, pneumonia, pulmonary congestion or tuberculosis. It disappears after resolution in pneumonia. Bronchitis accompanying nephritis or certain heart lesions also gives the albumin reaction.

(Roger and Levy Valenti, Paris, Berl. Klin. Woch. 1909, No. 39).

(b) *Salicylic Acid Reaction in Sputum.*—advocated by *Falk* and *Tedesko*, of Vienna. (Wien. Klin. Woch. 1909, 27), in doubtful cases, to differentiate between pneumonia, tuberculosis and bronchial effusions.

The method consists in administering to the patient two grams of salicylate of sodium by the mouth in either capsule or wafers and to examine the entire sputum collected in the following twelve to fifteen hours for the presence of salicylic acid by the chloride of iron method.

In Bronchitis, acute or chronic, and Bronchiectasis no salicylic acid is excreted with the sputum, while in Pneumonia the reaction is very positive. The intensity of the reaction is parallel with the extent and course of the disease. It disappears after recovery. In Tuberculosis the reaction is also present to some degree, being less distinct in the chronic than the acute form.

(Test for salicylic acid: Extract the sputum with sulphuric ether, evaporate the dryness and add a drop of neutral chloride of iron; salicylic acid is indicated by the development of a purple color).

KENTUCKY MEDICAL JOURNAL.

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EDITORIAL.

MALPRACTICE.

A careful investigation of some hundred outrageously unjust malpractice suits, shows that every one was inspired, or, at least, instigated by a jealous, a thoughtless or an ignorant physician. It was with a suspicion that this was true that the investigation was begun, and it is to be regretted that the suspicion was proven. Physicians, with all their altruism as a profession and as individuals, are apt to be or become egotists. Ignorant and bumptious men are the worst, but the great and near-great furnish enough offenders. Out of the abundance of one's knowledge it is so easy to be a critic. A few times a coward to cover a mistaken second operation has announced to the family that "the patient could have been entirely restored had it not been for the errors of my predecessor." Covert suggestions of lack of skill, damning or insinuating with faint praise, above all and always failure to practice the Golden Rule, to put ourselves where our fellow practitioner was, can easily cause such things.

Pause and think before you say unkind and especially untrue things of another physician. Remember that what one physician says of another to a layman—whether good or bad—is usually more nearly true of the speaker than of the other fellow.

AN OLD EDITOR.

It is with great regret that the JOURNAL notices the passing from the editorial fold of Dr. I. C. Chase, editor since the reorganization of the *Texas Medical Journal*. Dr. Chase has been an ideal editor. His *Journal* has been the best of the State Journals in its technical parts and always quite the equal of any other medical journal published anywhere in its scientific papers. Presenting as

it did the splendid profession of the Empire State of the South, Dr. Chase made his journal the envy of all the rest of us; he received, as he deserved, the entire support of the decent profession of his State, and retires from office with the love and respect of the entire profession of the country.

To his successor, Dr. Taylor, we extend a hearty welcome in the journalistic arena, and our best wish for him is that he may continue the high standard of the *Journal* as maintained so long by Dr. Chase.

A NEW EDITOR.

It is with considerable pleasure that the JOURNAL announces the addition of Mr. Eugene Kerner, the new Secretary of the Anti-Tuberculosis Association in Louisville, as one of its editors.

The brunt of the battle against tuberculosis must be borne by doctors. Intelligent laymen will assist, and will frequently inspire us with renewed zeal in the work, but it is from the doctor after all that the most far-reaching results will be attended. Mr. Kerner proposes to keep us informed about the progress of the battle everywhere, about the prospect of the fight in Kentucky, and in the audience composed of the readers of the JOURNAL he will find an intelligent force ready, willing and anxious to help. Kentuckians love a fight anyway, and this is the best opportunity we have ever had for a great winning campaign and a splendid victory.

THE A. M. A. MEETING.

The American Medical Association will meet in St. Louis, Tuesday, Wednesday, Thursday and Friday, June 7, 8, 9 and 10. The mere fact that the Association will meet in St. Louis will be of interest to every Kentucky doctor, because no other city is so readily available from Kentucky. This meeting

will unquestionably be the largest gathering of medical men that has ever been held in the world, and it will be well worth any man's time to go there. It is far more satisfactory to read articles or books after seeing their authors. Authors appeal more or less to us after hearing them talk. All the great men in American medicine to-day will be present in St. Louis. Every topic in which one is interested will be talked about in one of the sections. The social entertainments both for the visiting members and their wives will be continuous and hospitable, as we would expect from the largest Southern city.

There will be special rates on all railroads, and it is hoped the Kentucky delegation will be the greatest ever.

MEDICAL ELECTRICITY.

The large number of intelligent physicians who are using electricity in their daily practice will gladly welcome the monumental work just from the Saunders Press, by Dr. Sinclair Tousey, Consulting Surgeon to St. Bartholomew's Clinic, in New York City.* Dr. Tousey is probably the foremost authority on the question of medical electricity in this country. In his book he makes the principles underlying the whole complex subject seem easy. The practical chapters are no less complete, and the section on the therapeutic application of the various modalities is practical in the extreme. The newer high-frequency currents and the X-ray are particularly completely given. X-ray therapy is described in great detail. An additional fifty pages is added on the use of radium in medicine. The whole work is an octavo of 1,116 pages, with 750 illustrations, 16 of which are in colors. This remarkable work, by one of the foremost living medical authors, is worthy of a place in every library.

SCIENTIFIC EDITORIALS.

THE KIDNEY IN MENTAL DISEASES.

My attention was drawn to this subject early in my professional life. Some years ago while in general practice I had a patient with pyonephrosis due to the extension of a gonorrhea through the ureter to the kidney. I opened this abscess and attempted to drain it for a while without knowing just where the pus came from; later an exploratory operation was done by Dr. W. O. Roberts, the seat of the trouble found to be pus in the kidney and what little of the organ not destroyed was removed; mania with delusions followed and death occurred from exhaustion in about six weeks.

*Medical Electricity and Rontgen Rays: W. B. Saunders Company, Philadelphia, 1910, cloth \$7.00.

A few years later a similar case occurred in my practice; the patient died insane without an operation.

Extreme constipation with a "bathtowel" tongue is the common picture presented in the greater number of patients who are admitted to institutions for the treatment of mental diseases; this condition is due in part to auto-infection resulting from their mental disorder and to the use of opiates and hypnotics employed in an effort to control the patient.

Active catharsis has a surprisingly quieting effect upon the majority of these patients within a few days, but if the condition of the kidneys be looked into and proper elimination be practiced, in this manner a surprising result will be obtained, so called functional disturbances will get well and the deeper seated troubles will be improved; that this is true is due to the fact that acute mental manifestations are due to toxemia and in the major portion of them an examination of the urine will show a low specific gravity and the presence of a small amount of albumen with or without casts. Now without neglecting other valuable adjuncts, treat the kidney, use the turkish and electric baths if you have them; if not use plenty of hot and cold water internally and externally, use small doses of calomel 1-8 to 1-10 of a grain, often repeated with some reliable diuretic like acetate of potash. In a few days or few weeks your patient will be sleeping, his delusions will disappear and another examination of his urine will show the absence of albumen. Watch the kidney, look around you and see the number of cases of Bright's disease who die insane and treat the kidney.

MILTON BOARD.

DELAYED LABOR.

Even under the best of circumstances and without complications, the ordinary labor case is a tedious affair that interferes absolutely with the attending physician's practice at all times. If the case is conducted at night, then he is so worn out the next day, that he can hardly attend to his practice. If called during the day, one or two office hours have to be called off and other calls either postponed or attended to in a haphazard manner, that they might just as well not have not been made. If this may be said of the ordinary case, then the plight of the busy practitioner when some long and tedious delay occurs in the conduct of such a labor from unforeseen circumstances, can be better imagined than described.

Very often the obstetrician in his anxiety to get away and terminate the labor quickly, frustrates his object completely by the very

methods he resorts to. There is no commoner practice than the artificial rupture of the bag of waters, when dilatation is complete and there is nothing that will expedite labor more readily than this manoeuvre when used at the proper time, but it requires a nicety of judgment to select this proper time. It is rare that the rupture of the bag of waters is advisable in a primipara. Even when dilatation seems to be complete, the cervical structures are so tense that the absence of this hydrostatic pressure, brought about by the rupture of the membranes, will bring about a contraction of the lower fibres of the cervix, so that a tense ring then offers firm opposition to the presenting part and this firm structure instead of stretching and yielding under the influence of succeeding labor pains, will become swollen and thick and edematous, will make each labor pain exceedingly painful, and unless properly relieved, will practically delay labor for hours. If under such circumstances, firm pressure is made upon the swollen cervix with the side of the index finger introduced into the vagina, such pressure to be made between pains and especially upon that part of the cervix between the presenting part and the symphysis pubis, then the swelling will subside and in a few pains the cervix will slip over the presenting part and cause no further trouble. It is essentially to the success of this manoeuvre that the pressure be exerted between pains and the finger be kept firmly in place during a pain in order that that part of the cervix that has already been reduced, be not subjected to renewed pressure and slip down again.

In multipara, labor may often be expedited, in fact terminated in a few pains, by proper rupture of the bag of waters. In such a patient when it is found that dilatation is well advanced that the cervix can be readily stretched in any direction, then artificial rupture of the tense unyielding membranes will be followed by good expulsive pains and a rapid termination of the labor. The membranes should be ruptured when the pain wears off and not at the height of the pain, for fear of a prolapse of the cord with the sudden gush of liquor amnii.

In primipara in the first stage of a tedious labor, the pains will often become more effectual after a few hours of sleep and under such circumstances a hypodermic of morphine or a dose of chloral will have the desired effect. The latter if effective is the better of the two, because it promotes dilatation of the cervix.

Fear and anxiety inspired in the young primipara by her wise friends who have told her all kinds of improbable exaggerations in regards to the trying ordeals through which

she is about to pass, may often be allayed by the comforting and proper assurance of the attending physician, that she is absolutely safe in his hands and will be relieved as much as possible of all unusual discomfort. Ignorance as to how to conduct herself in the various stages of labor, is a fruitful cause of delay. It is not unusual to arrive at the house of a woman in labor and find a couple of women holding her hands and advising her to pull and bear down as hard as possible, when a later vaginal examination shows that the uterus is just beginning to dilate and that consequently such efforts are not only worse than useless, but exhausts the patient so that when the second stage finally arrives, and bearing down is imperative, that she is too worn out to assist in the delivery.

Much can be accomplished in the second stage of labor by proper instructions of the patient and the members of the family surrounding her. Nothing angers the patient more than to see a number of persons standing idly around, witnesses to her misery. The room should either be cleared of such persons or they should be made to give the patient proper assistance. It is a well known fact that the less people there are in such a room at such a time, the better it will be for all concerned and if possible they should be restricted to the nurse and the husband or mother of the patient.

Then the patient in the second stage should be instructed to draw a long breath, when she feels the pain come on grasp the wrist of the nurse sitting on the bed at one side of her and that of the husband or mother on the other side, these assistants at the same time bracing their chests against the knees of the patient and allowing her to bear down against them with all her strength. The comforting and reassuring words of the physician during such a pain will often induce the patient to exert herself to the utmost. Much can often be gained by the judicious use of chloroform in the second stage of labor. It may be used tentatively and if it is found that the pains become stronger under its use or the patient bears down more readily, then its free use may be continued.

The writer uses chloroform in the second stage of all labors, but in such a way, that he can give the patient as little or as much of the drug as she is deserving of. The chloroform is poured on the ordinary mask, the mask held over the face by resting the ulnar border of the left hand on the patient's forehead, the effectiveness of the pain is judged by the palmar surface of the right hand laid against the perineum and the chloroform mask elevated or lowered accordingly. In this way it can readily be understood, the patient

can be given either the full benefit of the chloroform if the pain is a good one or if weak and ineffective by holding the mask a couple of inches above her nose, she only gets the odor of the drug.

Under some circumstances, a judicious scolding will help matters along and in a number of instances the threat to resort to instruments has helped me out.

Often opening up the instruments and exposing them to view has induced the patient to exert herself and in a couple of instances sending for an anesthetist would stimulate pains and the baby would arrive before his advent. Sometimes a cup of strong coffee or a hypodermic of strychnine will help matters along. Quinine in full doses if the pains are weak in the second stage, will often be helpful. It should be given in full doses, 15 grains, repeated in one-half hour if necessary.

Ergot should never be used in the second stage of labor under any circumstances. A single dose may not do much harm, but those using that drug rarely stop when one dose does not prove effective, with the result that a tetanically contracted uterus prevents all further progress in the labor.

In both the first and second stage, a change in position will often intensify the labor pains. In the first stage the patient should be urged to empty the bladder frequently, for that purpose squatting down upon the vessel and remaining in that position for some time. The thighs support the sides of the abdomen, the uterus is kept firmly in the mid-line of the abdomen and any pains that come on during this time are more effective because they are transmitted in the proper direction.

In the second stage the patient should at times be allowed to squat up in bed, clasping the knees. This is the position assumed by the Indian squaw, when she delivers herself in the primitive fashion customary in that race in its uncivilized state.

At times the assumption of the Walcher position, illustrations of which may be found in every text book, will expedite the descent of the presenting part through the upper segment of the pelvis, whereas an extension of the legs when the head is crowning the vulva, will relax the perineal structures and favor the exit of the presenting part with less danger of laceration.

If the patient has been properly prepared for labor, then such a thing as an overloaded rectum should not present itself. At times, however, even when proper attention has been given to a patient early in the labor, then after a protracted first stage fecal masses may have accumulated in the rectum and may retard delivery. A rectal anema is indicated in all

such cases, the bed pan of course being used in the second stage.

A recent writer advocates the introduction of a colpeurynter, that is a rubber bulb distended with water, into the vagina. It stimulates labor pains by its presence and the presenting part in its descent gradually forces the inflated bag out of the vagina, the muscles of the perineum being stretched in advance of the presenting part.

In some multipara with relaxed abdomen, the application of an abdominal binder, fixing and supporting the uterus firmly in the median line, supplemented with firm downward pressure on the fundus in the axis of the superior strait, during a pain, will expedite matters. In multipara at times with feeble pains and cervix only one-half dilated, I have produced a rapid delivery by rupturing the bag of waters and compelling them to strain and bear down at proper intervals in imitation of strong labor pains. When the condition is due to hydramnios, then the escape of some of the liquor amnii will help matters along.

EDWARD SPEIDEL.

ORIGINAL ARTICLES.

TUBERCULOSIS OF THE BLADDER.*

By J. D. MUTTERS, RUSH.

Tuberculosis of the bladder is almost always secondary to a tubercular lesion elsewhere in the genital or urinary organs. No period of life is entirely exempt from the disease. It has been observed in the infant and in the aged. But, like the primary lesions upon which it most always depends, it is most common in the young adult. Fenwick has reported cases of tuberculosis of the bladder that seem to be primary. But this condition is certainly very rare and the clinician is justified in seeking the cause of vesical tuberculosis elsewhere in the genito-urinary tract. Infection usually comes from the prostate gland or the kidney. Instrumental infection is possible, and in rare cases the bladder may be infected from the peritoneum and is probably carried by the lymphatics. Coplin states in his manual of pathology that infection may occur from the blood, or from contiguous lesion in the prostate gland or seminal vesicles. Moullin's theory is more in accord with our knowledge of the tendencies of tubercular disease, according to this author, the trigone and base of the bladder contain a submucous network of lymphatics which are intimately related to other lymphatics similarly situated in the prostate

*Read before the Boyd County Medical Society at Ashland, January 25, 1910.

gland, ureter and kidney. The bacillus tuberculosis travels from the primary focus in these organs chiefly, if not wholly, through the lymphatic vessels to the bladder. It has been argued by some writers that when the urine is laden with the bacillus tuberculosis, which have been washed downward from a tubercular lesion in the kidney, an infection of the bladder often occurs from these bacilli in the urine. This is a reasonable conclusion, provided there be a lesion of the mucous membrane of the bladder, such as may be caused by a vesical calculus or some inflammation of that organ acting as a predisposing cause. The influence of an antecedent inflammation in preparing a soil for the bacillus tuberculosis is very impressive in cases of chronic gonorrhea winding up in tuberculosis of the prostate gland or the trigone.

There are two forms of vesical tuberculosis, the one, ulceration at or in the neighborhood of the neck of the bladder, points to primary lesion in the prostate gland, the bladder becoming involved by an ascending process by way of the lymphatic vessels, or by contiguity; the other ulcerations mostly in the vicinity of the ureteral openings, points to an antecedent tubercular lesion in the kidneys. In these cases the bladder becomes involved by a descending process by way of the lymph channels. The bladder, like every other organ, may be involved in a general miliary tuberculosis. Such cases are of purely pathological interest. It may be a part of a wide-spread genito-urinary lesion involving the kidney, ureter, bladder, prostate gland, seminal vesicles, spermatic duct, epididymis and testicle. The most frequent manifestation of vesical tuberculosis is the ulcerative form. The ulcers may be solitary or multiple; commonly there is a single large ulcer, near which are grouped numerous smaller ones. In the early stages of the disease a number of tubercles are formed in the sub-epithelial connective tissue, as minute whitish areas, the size of a pin head, surrounded by an area of congestion. Necrosis and disintegration rapidly invade the developing tubercle and promptly convert it into a small ulcer, which, if seated near the larger lesion, quickly becomes confluent with the latter. Many of the smaller blood-vessels are thrombosed, and no doubt this is a determining factor in the extension of the necrosis. Commonly the ulcer does not become larger than a 5 cent piece, its floor is the submucosa, and, in some instances, the muscular wall may be reached. Perforation of the bladder rarely, if ever, occurs: it may take place as a result of mixed infection.

As the disease advances, the tubercles, ulcers, and congestion spread slowly to all

parts of the organ by lymphatic extension, by direct growth and coalition of ulcerated tubercles, and perhaps by contact, an ulcer of one surface giving rise to a secondary ulcer on the opposite surface by actual contact with the mucous membrane.

Symptoms.—The disease usually begins during the course of a renal or prostatic tuberculosis or of a chronic gleet. The disease is especially distinguished by the presence of blood in the urine, which shows itself suddenly and apparently spontaneously, or provoked by instrumentation. Irritability of the bladder may precede or follow the hematuria. Whether bleeding or irritability comes first the other soon follows. The hematuria is a prominent symptom of the disease from start to finish. The patient first notices a few drops of blood exuding from the meatus at the end of the urinary act, the blood seems to be squeezed out by the contraction of the bladder, and usually accompanied by pain and spasm. This combination of bleeding, pain and spasm at the end of urination is very suggestive of vesical tuberculosis, though it may occur with any severe congestion about the neck of the bladder. The next urine passed is usually red with blood, and so the bleeding continues for a few hours or days, and then apparently stops, to recur after an interval of days or weeks. In the meanwhile, however, the urine is not entirely free from blood, even when clear and sparkling the microscope will detect a few red-blood corpuscles in a centrifuged specimen, and a trace of albumen will also be found. These bleedings recur from time to time, by night as well as by day, varying in frequency and in quantity, and are uninfluenced by exercise or by rest. As the disease progresses and its lesions spread the hemorrhage may become more frequent and less profuse, the urine gets to be hazy all the time, and contains a few small bright red clots, the last few drops may be pure blood, but beyond this there is not likely to be any severe bleeding unless it is stirred up by instrumentation.

The frequency of urination, the pain accompanying the act, is sometimes the earliest, and always the most distressing symptom of vesical tuberculosis. At first the frequency of urination is not great, although there may be some discomfort as soon as a few ounces of urine accumulate in the bladder, and the pain is chiefly confined to the end of the urinary act. As the bladder contracts down on the last drops of urine, a small quantity of blood appears at the meatus, a sharp pain is felt in the perineum and sometimes at the peno-scrotal angle, and radiate in various directions. The pain excites a tighter spasm of the bladder, this spasm increases the pain,

so that much pain and spasm is present for some time after the last drop of urine has been expelled, leaving a soreness which may persist until another urinary act renews the wrecked cycle. As the disease progresses the time comes when the pain accompanies every act of urination and grows more and more severe. When ulcers form, or a mixed infection occurs, another pain is felt, a pain before urinating, often amounting to an imperious and irresistible spasm which, if not immediately acceded to, will squirt a few drops of urine down the sufferer's thigh in spite of all his efforts to prevent it. The increased sensibility of the bladder, brings on spasm, more or less severe, as soon as a small quantity of urine accumulates, and with this spasm before urinating and more severe spasm afterward, the constantly decreasing capacity of the bladder and increasing frequency of urination, the patient knows no rest day or night; should instrumentation be attempted the spasm is greatly intensified. The bleeding and severe spasm aroused by almost any instrument or wash soon causes the sufferer to dread the catheter with all his soul. A special antipathy of the tubercular bladder to silver nitrate is often a means of distinguishing tubercular from simple cystitis.

The urine in vesical tuberculosis is acid. As the disease progresses the urine may become foul with the products of a suppurative process ingrafted on the tubercular cystitis. But, however foul and ammoniacal the urine may be, its one striking characteristic is its continued acidity. Clinically, alkaline urine is most exceptional in tuberculosis of the bladder, however violent the mixed infection. The urine may be only slightly acid, though it is usually strongly so, but acid it is; and this persistent acidity in face of the ammoniacal odor and the foul mucus so characteristic of alkaline cystitis, is often one of the most suggestive features of the disease.

The urine contains red blood-cells, bladder epithelium, and usually albumen in considerable quantity. A diligent search for casts must be made, for, if found, they point to a kidney lesion, presumably the tubercular. The final diagnosis often depends upon the discovery of the bacillus tuberculosis in the urine, and our present knowledge is such as to afford an almost perfect analysis of its presence or absence. The special difficulties to be overcome in searching for tubercle bacilli in the urine are the small number of bacilli in the urine, and the danger of mistaking the smegma bacillus for the tubercle bacillus. The specimen of urine should be passed into a sterilized vessel and submitted to the centrifuge, the sedimentation of the

bacilli is favored by the addition of a small amount of clear, egg albumen which entraps them and carries them to the bottom of the centrifuge tube. The sediment is then examined by means of fixing and staining and cultivation or by injection into guinea-pigs. Staining and cultivating are rapid and accurate if properly performed. Vesical tuberculosis should not be diagnosed from finding individual bacilli in the urine, the kidneys excrete bacteria very freely, innocent bacteria thrown into the jugular vein, appear in the urine within five minutes, hence, in systemic infection, individual bacilli may appear in the urine in fair numbers. Always diagnose tubercular cystitis by the appearance of the bacilli in clumps and bands and not by individual bacilli. Every effort should be made to diagnose the disease without instrumentation; this can be done and the patient's gratitude well earned. The introduction of any instrument in the tubercular bladder is likely to be followed by considerable prolonged spasm. General anesthesia is usually required to overcome the vesical spasm and bleeding caused by instrumentation with the cystoscope, and the diagnosis of tuberculosis of the bladder can usually be made without cystoscopy. In only one condition is the cystoscope absolutely essential, viz.: when removal of a tubercular kidney is contemplated. Cystoscopy is then essential to determine the condition of the bladder and permit catheterization of the ureter. It is notable that when the bladder lesion is confined to the vicinity of the ureteral mouth it will usually heal after removal of the kidney. Partial incontinence of urine from spasm or from ulceration of the neck of the bladder is notable, mixed infection intensifies the pyuria and phosphatic stone may be formed and multiply the agonies of the patient. The symptoms of involvement of the other genitourinary organs are, sooner or later, important, and the rapid pulse, hectic fever, and general deterioration characteristic of this disease may be noted in advanced cases.

The bleeding and vesical irritability, the antipathy of the tubercular bladder to nitrate of silver, the evidence of tuberculosis elsewhere in the body, the discovery of tubercle bacilli in clumps and bands in the urine establish the diagnosis.

The course of the disease is irregular and slow, it grows worse year by year, and the disease may be drawn out over a period of years, rendering life almost unendurable. Death is due to renal or pulmonary involvement, and upon the implication of these organs depend the prognosis. The symptoms are often readily controlled, recovery is possible, though extremely rare.

As to treatment it must be the aim of the physician to let the bladder alone, if possible, and treat the case as he would treat tuberculosis of any organ. Urinary antiseptics are useless and likely to prove irritating, good results are sometimes obtained by the internal administration of ichthyol and cod liver oil. Balsams and alkalies may be given to modify the urine and soothe the bladder. In advanced cases the irritability and spasm of the bladder is so great that something must be done to relieve suffering, and for this purpose we may use, by instillation, 25% to 50% per cent. solutions of guaiacal valerianate in olive oil, or 2% to 10% watery solutions of thallin sulphate.

When local treatment fails completely, and the patient is unable to endure his agony, the physician may explain the slight chances of permanent cure, and the disadvantages of a permanent urinary fistula, and if the patient is willing to risk everything on the chances of being relieved from suffering, continuous drainage may be established by operative procedure. Once in the bladder, irrigation with solutions of sublimate, solutions of iodoform and guaiacal in olive oil. The results may be disappointing, yet such treatment often alleviates the suffering and may effect a cure.

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THE MANAGEMENT OF NORMAL LABOR CASES*

By J. H. HESTER, MUNFORDSVILLE.

The questions involved in the management of a woman in labor will confront every practitioner of medicine, and his ability will be put to proof before his medical career has extended very far, and to a beginner there is much that is trying and embarrassing, especially when his every movement and action is watched and criticised (and I must say, sometimes justly) by the old mother midwife.

It is well to recollect also that nature alone usually terminates labor with safety to both mother and child, but at the same time it should not be forgotten that any moment dangerous complications may arise which should be immediately recognized and promptly dealt with; on this account it is very necessary for the obstetrician to have a thorough knowledge of all dangerous complications.

Having been called to a case of labor, the first question is, what shall I take with me? A fairly well-equipped obstetrician should

have in his obstetric bag, scissors, needles, suture material, needle-holder, hemostats, one box sterilized gauze, absorbent cotton, funis band applicator with the rubber bands, hypodermic syringe, with customary pellets, Norwoods, Tr. Veratrum Viridi, 4 oz., alcohol, a bottle of Squibbs chloroform, one dram Crede eye solution (2 per cent. silver nitrate solution), one oz. ergot, a bottle of sterile vaseline, antiseptic tablets (bichloride), a bottle of cord dressing preferable oleum ricini, dr. 2, balsam Peru, min. 4, nail brush and a fountain syringe, Kelly pad, obstet. forceps. If the patient has spoken to me prior to her confinement I give her the following instructions: Please have on hand the following articles: $\frac{1}{2}$ doz. loeal pads, 3 yards plain sterilized gauze, $\frac{1}{2}$ pound absorbent cotton, one doz. large safety pins, one doz. small safety pins, fountain syringe, 6 towels and 4 sheets freshly laundered, one blanket for baby, some clean soft white cloths, talcum powders, soap and 4 oz. sat. sol. boracic acid. Before making an examination the patient should be given a bath and the physician should wash his hands thoroughly with soap and water and then in an antiseptic solution, and then he should trim and file his finger nails and then wash again in the antiseptic solution, and before introducing the examining fingers should lubricate them with sterile vaseline.

The diagnosis of labor is the next question that confronts the physician when called to visit his patient, and some very unfortunate mistakes have been made in diagnosis.

Dr. Barton Cook Hirst, of Philadelphia, Pa., cites a case. One of his students, having been called hurriedly to see a patient, spent some fifteen minutes sterilizing his hands, and made a prolonged vaginal examination, much to the patient's surprise, as she had called him on account of rheumatism.

An instance occurred in our county in which one of our best physicians made a diagnosis of ovarian tumor and advised an operation, but after consultation decided to await further developments, and in a short time she was delivered of twins.

The signs of labor are pains in the sacral region or abdomen, recurring at intervals of from five minutes to half an hour, which come on suddenly and last for about one minute; sometimes we have a little blood-tinged mucus escaping from the vagina, but the most reliable sign is the dilatation of the os, and when the pain comes on you feel with the examining finger the pressure downward, and membranes and os made tense.

Having made a diagnosis of beginning labor, the presentation and position of the child must be made out by vaginal touch, auscultation

*Read before Muldraugh Hill Medical Society.

tion and palpation. We make the diagnosis of presentation by dividing the uterus into four equal parts by an imaginary line corresponding to the median line and a transverse line which passes through the middle of the uterus, and may or may not pass through the umbilicus, as its position varies in different individuals.

In vertex presentations the maximum intensity of the fetal heart-sounds are heard below the transverse line and to the right or left of the perpendicular line.

Face presentation: On the transverse line and to the right or left of the perpendicular line.

Breech presentation: Above the transverse line and to the right or left of the perpendicular line.

Shoulder presentation: On the perpendicular line midway between its point of intersection of transverse line and the pubes.

After assuring yourself that all is well, inquire into the condition of the patient's kidneys and bowels, and if the bowels have not acted freely in the last two or three hours relieve them with an enema of a pint to a quart of soap suds. If this is not attended to labor may be delayed, and the danger of tear is greatly increased. During the first stage of labor permit the patient to get up and walk around, making examinations as often as the indications of each case demand.

Before the woman is put to bed to stay, the mattress should be protected by a rubber sheet or an oilcloth and over this a sheet should be placed and then a Kelly pad placed where you aim for the hips to lie, and then fold a sheet twice and place it over the Kelly pad, pinning it down at each corner so as to hold it in place, or you may use instead of the Kelly pad a pad made of newspapers. As labor advances and the first stage is about to pass into the second, that is, after the os is completely dilated, always place a cloth or a sponge next to the patient to catch the escape of the liquor amnii. In a primipara I rarely rupture the membranes, as they dilate the outlet gradually and in that way help to avoid rupture; but in a multipara I usually rupture the bag of waters at the end of the first stage of labor by puncturing them between pains.

During the second stage of labor I keep my patient in bed, and when the head has reached the floor of the pelvis I have two assistants to hold her hands if she desires and if not I have to lock her hands together and press down on her abdomen. If the cervix be directed backward and to one side, hook the finger into it in the intervals of pain and draw it toward the center of the parturient canal.

Occasionally the anterior lip of the cervix becomes impacted between the head and the pubes; to overcome this, press up the anterior lip in the interval of pains and hold it above the head when the pain comes on. During labor if the pains are short and not of sufficient force, I give a hot sitz bath or give ten grains of quinine and then have the abdomen rubbed well for five minutes. I usually have my patient lie on her back with her legs well flexed and her knees well apart, and when the head has put the perineum well on the stretch I introduce the index and middle fingers of my examining hand into the rectum and pull the perineum forward toward the symphysis, the thumb at the same time making pressure on the head so as to retard its progress. If the uterine contractions are too severe I sometimes give a little chloroform to relax the perineum and at the same time lessens the power of contraction.

Anesthetics in labor: I prefer chloroform to all others, but very rarely give any, as it may prolong labor and superinduce postpartum hemorrhage. As soon as the head is born make a sweep of the forefinger between the child's neck and maternal symphysis to see if the cord is around its neck. If so, make gentle traction and draw the loop large enough to slip it over the child's head; after this the head of the child should be held in one and, while the other, placed upon the abdomen, follows the uterine down as it descends, and forces out the body.

During the delivery of the shoulders the expulsion should usually be left to uterine contractions. The most common cause of delay at this stage is the arrest of the anterior shoulder under the symphysis: to liberate this make traction directly downward. It may become necessary to assist the expulsion of the posterior shoulder by lifting the head toward the symphysis at the same time making slight traction.

When the child is born have the nurse make gentle pressure over the fundus of the uterus. If the child does not cry out, clear the mucus from throat and mouth with the finger, place the child in a basin of hot water, and dash cold water on the chest, use artificial respiration, dilate rectum, or mouth to mouth respiration, etc., until breathing is established. Always lay the child on its right side, it favors the closure of the foramen ovale.

After the cord ceases to pulsate eight inches from the child's abdomen tie the cord with a thread about four inches from the child's abdomen and then cut the cord from two to three inches from the child's belly and then put on the rubber band with your Funis band applicator. I then wrap the baby

well in the blanket prepared for it and lay it away for thirty minutes.

There are three things to be considered in the third stage of labor: First, to assist in the delivery of the placenta; second, to keep up uterine contraction and third, to prevent hemorrhage. I usually wait fifteen or twenty minutes after the delivery of the child before assisting in the delivery of the after-birth. I nearly always use Crede's method in the expression of the placenta. After the placenta has been expelled into the vagina, traction may be made upon the cord and extraction slowly accomplished, at the same time keeping up pressure upon the fundus of the uterus. I always have the nurse or assistant to keep her hand over the fundus of the uterus for from 30 minutes to one hour after delivery to insure no hemorrhage. I never give ergot unless in case of post-partum hemorrhage.

Care of the child: Remove the vernix caseosa with warm lard or vaseline; dry thoroughly and dust well with talcum powders, and dress the cord with oil dressing mentioned above and a piece of sterile gauze, placing a binder over this snugly. After delivery the external parts of the mother should be cleansed thoroughly with an antiseptic solution and then remove all soiled linen from the bed and place a loeial pad over the vagina, held in position by an abdominal supporter, a pattern of which I will show you on request. Change the loeial pads as often as may be necessary to keep up cleanliness. I use a binder for three reasons, to keep up pressure over the uterus, to hold the loeial pad in place and to preserve the original figure of the patient. It is best to have your patient lie on her back for five or six hours. Move the bowels about the third day with oil or salts if necessary. The physician should give specific directions in regard to rest and quiet, permitting only those necessary to wait on the patient in the lying-in room for the first few days. If after-pains are too severe, give small doses of ergot; repeat every two to four hours. You may add to this some form of opium to control the pains of contraction, as they are usually caused from a relaxed womb and accumulated blood clots. In extreme cases it may be necessary to give a hypodermic of morphine.

Diet: The diet is a matter of no small importance during the puerperal state. I prefer a light diet, such as milk for the first day and then milk and soft boiled eggs, a little toast and cereals, and gradually increase till on the sixth or seventh day you can take most anything that she could before she was confined. In this way you will avoid many

of the inflammatory conditions about the genitals and breast.

The physician is often annoyed by having to use a catheter after confinement to relieve the overdistended partially paralyzed bladder, which may be avoided if you will caution the nurse and patient to use the bedpan on the slightest inclination to urinate. The baby should be put to the breast in two hours after it is born and every two hours thereafter. It gets the colostrum, which is good for its bowels. Wash the child's mouth out before and after nursing with a sat. sol. borie acid; also keep the nipples well cleansed.

It is best for the physician to remain for at least one hour after delivery, and in country practice, where we can not revisit the patient as often as our city cousins would under similar circumstances, be sure and leave specific directions for them to call you should any untoward symptoms occur.

TONSILITIS.*

By S. J. SMOCK, GLASGOW.

The tonsils are two glandular organs situated, one on each side of the fauces, between the anterior and posterior pillars of the soft palate. They occupy a space called the tonsillar space or fossa, bounded posteriorly by the palato pharyngeus muscle, forming posterior pillar of the fauces, and anteriorly by the palato glossus muscle, forming the anterior pillar. Above, the pillars join to form a covering for the uppermost part of the tonsils.

The tonsils are composed (1) of connective tissue, which acts as a frame work to the tonsil substance; (2) Germinating follicles, which are the centers wherein are formed young lymphoid cells; (3) The interfollicular tissue, filling the space between the germinating follicles; (4) The crypts consist of an invagination of the epithelium from the surface of the tonsil, with this difference, that as it dips down into the crypts it becomes thinner and for the greater part the covering is made up of a very thin layer of epithelium often not more than one or two cells in thickness. The blood supply is from the ascending palatine branch of the facial artery, through the tonsillar artery.

The nerves are derived from the fifth and glosso-pharyngeal. All inflammation of the tonsils or nearly so are due to infection through the epithelium of the crypts. It may be either acute or chronic in type. The function of the tonsil is still an open question. As to when or at what age its function ceases or as to when its function has become so altered by disease to necessitate its removal is also an open question.

*Read before the Barren County Medical Society.

I would say when we find a tonsil showing a tendency to become the seat of recurrent inflammation, causing an enlargement of the organ and cough, more especially during the winter months and especially at night, aggravated by every change in the weather, it should be removed.

I had a case of this kind in my own family; child began having a winter cough when four years old and continued to have it each winter for the next three winters. In spite of all manner of treatment, when the tonsils were removed, after which she never had any more cough.

When it becomes apparent that an individual's health, be it child or adult, is affected by the recurrent inflammation of the tonsils, or recurrent infection, for that is what it is, they should be removed. Taking up acute tonsilitis. It is caused by some impairment or abrasion of the epithelium of the crypts, rarely of the surface epithelium. It being several layers thick, while that of crypts is only one or two layers thick, which admits of the absorption of certain pathogenic bacteria. Goodale and Wright have shown that the healthy epithelium will absorb carmine, while it will not absorb bacteria. Bacteria are only absorbed through dead or impaired crypt epithelium, and this caused by dead epithelium or other foreign matter confined in the crypts by the swelling of the mouths of the crypt or an overlapping of the membrane in such a way as to prevent the expulsion of their contents. The toxins thrown out by the imprisoned micro-organism causes the death of the crypt epithelium, and thus opens the way for the invasion into the tonsil and from these into the lymphatic circulatory system. Hence the constitutional symptoms of this disease.

It comes on usually from catching cold, which is but another way of saying that the resistance was lowered, thus favoring the growth of the pathogenic bacteria. On inspection we see the tonsil swollen though the chief changes occur in the crypts where there is an accumulation of leukocytes and dead epithelial cells intermixed with pathogenic bacteria. It comes on like any other acute infectious disease, chilly sensation or even light rigor may mark the attack. The temperature gradually rises from the first to the third day to 102 to 105 degrees.

Occasionally there is a fibrinous exudate admixed with the debris, which gives it the appearance of a membrane; but we find that the secretions are easily wiped off. In contradistinction to the diphtheritic membrane which is closely adherent to the epithelium. The case usually runs its course in seven or eight days. Under appropriate treatment it

may be shorter than this. A strong solution of silver nitrate often ending the disease within a few days. The cervical glands may suppurate beginning with the one at the angle of the jaw and extending to the others. Purulent otitis media, pericarditis and pleuritis are some of the complications. It is sometimes difficult to make a differential diagnosis between acute lacunar tonsilitis and diphtheria. I have already referred to the character of the membrane. In tonsilitis the onset is by a sharp rise of temperature. While in diphtheria the rise is more gradual. Also in tonsilitis we have a rapid bounding pulse, depression not marked, exudation limited to the tonsils, especially the mouths of the crypts. Exudation not adherent, soft and friable. Albuminuria not common.

In diphtheria we have the opposite of all of these. After all the one pathognomonic symptom in diphtheria is the Klebs Loeffler bacillus, while in tonsilitis we do not have it. We have already referred to the use of nitrate of silver in the treatment of this disease. There is some danger in using the silver salts, as any of the fluid coming in contact with the muscles of the larynx will cause severe suffocative symptoms. This may be avoided by squeezing out any excess on the mop before making the application. Other remedial agents are guaiacol in from 25 to 50 per cent. solution, at the same time giving the carbonate in five grain doses. The salicylate of sodium, the benzonate of sodium, chlorate of potash are other remedies that may be used; tr. of chloride of iron is also a good remedy.

ACUTE PERITONITIS.*

By W. H. YELTON, BUTLER.

Peritonitis is a term applied to inflammation of the serous membrane lining the abdominal cavity and covering in its reflections the organs which this cavity contains.

Etiology: Within a comparatively few years it was generally considered that acute peritonitis was usually idiopathic, but with an increasing knowledge by which infection occurs that most, if not all cases of peritonitis are due to an infection that has come to the peritoneum through primary disease or the presence of infecting organisms in other organs. While we cannot positively deny the existence of idiopathic peritonitis, we should nevertheless always doubt it and use every effort to discover the cause of the infection, even if it is not readily found.

The two great causes of peritonitis are appendicitis and disease of the Fallopian tubes.

*Read before the Pendleton County Medical Society.

In both of these instances it is due to the extension of an inflammatory process, which in turn arises chiefly from the spread of the micro-organisms. Of the micro-organisms which generally produce peritonitis under these circumstances the bacillus coli-communis is perhaps the most frequent.

Next is the strepto-coccus and the pneumococcus. There are others which I will not mention. While we know that peritonitis in its acute form is a secondary infection, it must not be forgotten that in a very large number of cases the peritoneum is capable of resisting infection. Indeed the vital resistance of this membrane, when in health, is very remarkable. Certain diseases which greatly decrease vital resistance, greatly increase the susceptibility to peritonitis, as for example: typhoid fever, Bright's disease, and advanced arteriosclerosis.

Symptoms: There are few diseases which when well developed produce a train of symptoms more characteristic than are those of acute peritonitis. This holds true, however, only when the disease is well advanced, and is so severe that there is grave doubt as to the patient's recovery. In most cases when the physician is first called to the patient severe pain in the abdomen is the chief condition which is complained of, the pulse is usually quick, small and hard and the belly-wall tender on palpation and distinctly rigid. The face will be found to wear the expression of anxiety seemingly far out of proportion to the length of the illness and its severity. It is characterized by great abdominal tenderness and by a flat or scaphoid appearance of the belly-wall.

To sum up the disease is characterized by intense and diffuse abdominal pain and later distension, vomiting, constipation, elevation of temperature, small, hard, rapid and wiry pulse, 120 to 140, and increased respiration 30 to 40. Patient lies on the back with the legs drawn up.

LAGRIPPE.*

By J. F. YOUNG, MONTICELLO.

Lagrippe is a specific fever, caused by a specific organism, called Pfeiffer's bacillus. It is self limited, non-contagious, but infectious. Since 1890 the name lagrippe, epidemic catarrh and influenza are used interchangeable. Before 1889 the term lagrippe was not used in American text books or in the medical journals of America in discussing this fever. In the winter of 1889 an epidemic began in Paris and spread rapidly over France. The disease was so severe and

spread so rapidly, and death followed death in such rapid succession that the lay press spread the news in advance of the epidemic. Under the name lagrippe the physicians of Paris first gave the news of a new disease creating havoc and destruction among the old and feeble in that proud city, or an old disease which had appeared upon the continent with renewed energy after being dormant for a number of years. It was epidemic catarrhal fever of our older text books, presenting a more varied clinical history than had ever been fully described up to this time. It came with renewed energy, for the bacilli have the power to enter the blood stream and are washed to every organ of the human economy, where they often set up abnormal conditions so varied that it is a most difficult task to describe a typical case of lagrippe. The epidemic rapidly spread from Paris to all of Europe and in January of 1890 the lay press of New York, Philadelphia, Boston and Washington almost simultaneously announced the appearance of lagrippe on the Atlantic coast of America and before the winter was over the epidemic had spread to all the civilized world.

Epidemics have spread over the entire globe from early in the ninth century. They usually last two, four or five years. No where in the centuries has an epidemic lasted so long and caused so much suffering and so many deaths in the human family as the one beginning in 1889. The bacilli came then like Pharoah's locusts of olden time and o'er spread all the world and we have been unable to find their breeding place or number their mighty hosts; when they shall have spread devastation and ruin in the homes of the millions they will seek repose in some hiding place for renewed strength and energy for a new attack upon mankind in another generation.

No one is immune to the destructive influences of these bacilli; they will attack the infant at the breast to the centenarian, and one attack does not give immunity. It is a most difficult task sometimes to diagnose a case of lagrippe. To better understand the symptomatology, I would make three distinct types of the disease. There are three groups of symptoms, which stand out prominently, the physician must recognize. In each of these types there are some symptoms common. The period of incubation is very brief in each type, and the fever in uncomplicated cases is self limited in each.

In pulmonary lagrippe the catarrhal symptoms predominate. In abdominal lagrippe the stomach and bowels become the seat of the greatest disturbance. In cerebro spinal

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lagrippe the nervous system is most profoundly shocked.

Pulmonary lagrippe sets in suddenly. It may be with a chill and the fever comes up at once. There is much frontal headache, and the bones and muscles ache. The most pronounced symptom is the catarrh of the air passages. There is much coryza and dry cough and sneezing. The pharynx, larynx and bronchi are attacked. There is heat and stuffing dryness in the throat and nose. The mouth and tongue are dry and hot and the voice grows husky. The cough is hard and dry and tormenting, especially in the evening and night, as the fever grows higher. The pulse becomes very rapid and weak. This invasion will reach its maximum from the second to the fourth day, if there are no complications, and this is the extent of the catarrh. The fever will decline from the seventh to the ninth day, when convalescence will be established.

The complications most frequently seen in this type are pneumonia, pleurisy, tonsillitis, laryngitis or a later tuberculosis may be developed. It may end by crisis or by lysis.

Abdominal lagrippe may be ushered in by a chill and a sudden attack of vomiting with abdominal griping. The esophagus and the gastro-intestinal mucous lining becomes involved. The appetite is gone. Food will excite vomiting. The epigastrium is painful. There is sometimes obstinate constipation or a profuse diarrhoea may come on. There is great prostration. Children become restless and even delirious. Convulsions often occur. The child may soon be overcome by exhaustion. The temperature shows marked daily remission of very wide range frequently reaching below normal in the morning. If there are no complications this may subside in from five to eight days. This will leave the patient very weak and greatly emaciated for so short a sick period. The sub-normal temperature which follows may make convalescence very slow. This type may leave a gastro-enteritis, or excite a later tuberculosis.

Cerebro spinal lagrippe comes on very suddenly with a chill or crawling, creeping, chilly sensation over the body, alternating with hot flashes. There is very intense headache and backache on the first day. The fever comes up at once. The muscles are sore and pains radiate out the nerve trunks. The pulse very soon becomes very weak and rapid. There may be convulsions, head retraction and cervical rigidity and great prostration. The heart may be permanently damaged. The nervous system may be left wrecked. A chronic nephritis may be one of the results.

The pathological changes are very insig-

nificant for so grave a disease, is the verdict of those who are situated so as to make these examinations, the greatest changes occurring in the the organs which are the seat of complications.

Lagrippe is to be dreaded in the mildest type. A patient may be suddenly overwhelmed with the toxemia. The complications are so many and varied that the outcome is always in doubt. Complications as referred to in this article is the invasion by the bacilli of the remote organs of the body, having an existing disease. If the lungs are sound at the time you are the recipient of the lagrippe germs and the catarrhal invasion extends down into the lungs, producing pneumonia it is lagrippe pneumonia and is the disease spreading and not a complication. If the lungs are already diseased and the lagrippe adds a pneumonia then we have a complication. The same is true of all other organs. The physician must have a clear cut and comprehensive understanding of all these varied conditions and possibilities before he can prescribe intelligently for his patient. There is no specific treatment, so then the treatment is as varied as the conditions and these conditions must be met as they arise.

I would recommend then that the patient be put to bed at once, in a well ventilated room, which has a shaded light. The room should be free from all noise. All persons should be excluded from the room except those whose business it is to tend the patient. A full dose of quinine in the initial stage, with a hypodermic of morphine will do much good to relieve the intense headache in the catarrhal and cerebro spinal type. The quinine should not be given where there is vomiting in the abdominal type. The morphine should never be given except hypodermatically. Full doses of bromide of potassium should be given in those cases where the nervous system is keyed up to a very high tension. Antipyretics should be used with great care. If the fever does not run above 104 persistently, antipyretics are not indicated except the use of water. The ice pack or cold water bag to the head in the nervous type may do much good. In the abdominal type relieve the constipation with a full dose calomel and castor oil. Zinc sulpho-carbolate, bismuth and salol may be given for the diarrhoea.

To allay the nausea give small doses of bismuth, cerium oxalate with cocaine muriate. In the beginning of the catarrh the nose, mouth and throat should be sprayed with cocaine; at the same time to breathe steam will give much comfort. Expectorants should be given from the first of the attack of the pulmonary type. Heroin and codeine may

be given sparingly to allay the troublesome cough. The patient should be fed on a liquid diet from the first, and too much importance can not be given to this part of the treatment.

To maintain the strength and support the heart are the two chief considerations in every case of grippe. This is accomplished by carefully directing the feeding, administering tonics and bracing the heart. Strychnine and tr. digitalis should be given in most cases from the beginning of the disease. In all the cases where there is great prostration and a subnormal temperature give whisky or brandy. The physician should be guarded in his prognosis, for the disease is always treacherous, lest the patient slip through the partly gates at any time, into the great beyond.

TUBERCULOSIS (ETIOLOGY).

BY O. W. BROWN, LENOXBURG.

In consideration of the etiology of tuberculosis we are dealing with a subject that certainly should interest us above all subjects pertaining to medicine, for our comrades and friends are dropping all about us every day and it seems that in the past we have had little consolation to offer. When an epidemic of diphtheria, scarlet fever, or any other contagious disease breaks out in a certain community and causes the death of two or three, the whole community seems to be very much alarmed and will scarcely venture out of their homes, for even the most ignorant of the laity understand that these diseases are death dealing and they must keep away. But when we stop to think of this great white plague being epidemic in every country of the globe and yet we allow constant communication between the patient sick of this disease and the outside world, it is not surprising that the death rate has been untold millions.

If any of us present here today had been practicing medicine prior to the discovery of the tubercle bacillus, and some one would have asked us the cause of consumption, no doubt we would have all answered with one accord "Heridity." But we now know that this influence plays a minor part and know that it is a germ disease. In a sense we might say that the sole cause of tuberculosis is the tubercle bacillus of Koch and end the discussion right here. But I would rather divide the etiology into exciting and predisposing. The latter seems to me to be the most important and worthy of more discussion than the former. We know that to have a tubercular condition of any description we must have the presence of the tubercle bacillus, but again we must have a

receptive soil or a lodgment where the organism can grow and multiply. And the rapidity with which the bacillus multiplies seems to be a criterion with which we can judge the gravity of the disease. I am sure that none of us would be alarmed if we knew we had only one or two bacilli lodged in our lungs or our glandular system and that there would be no multiplication. Some of the late works on tuberculosis teaches that it is very contagious, but I would rather call it infectious if we can make a distinction between these terms. I understand that contagious means to take by coming in contact, while infectious means the multiplication of a pathogenic organism in the body. Any way we have undoubted proof that tuberculosis can be transmitted from one person to another and also that it can be transmitted from animal to human and from the human back to animal. We know of a certainty that whole families have perished of this disease from living in infected houses and waiting on those afflicted. I personally know of a father and son that was constantly in contact with a wife and four sisters-in-law, all of whom succumbed to the disease within four years. There was absolutely no hygiene connected with the nursing of these patients and the house was never fumigated. Yet this man and his son lived in the same house for three or four years and I have seen them both ten years after they left this house and both the picture of health. No doubt we can all cite many such instances.

This is why the predisposing causes seem to me to be more potent than the direct infection. We have all no doubt had many of these germs to alight on the mucous membranes of our respiratory tract, but we did not contract tuberculosis, simply because the membrane was so healthy and strong that they couldn't find a place to start a tubercle. They simply died for the want of a suitable lodging house. There seems to be something in the general make up of an individual that predisposes him to this disease. The complexion, the shape of the chest, curvature of spine, angle of ribs, and so on, which of course shows a deficient development of thoracic organs and therefore a susceptibility to consumption. Again certain races are more susceptible than others. The American Indian under civilization seems to be more susceptible than any other race. It is also very common in the negro, and especially the mulatto. The Polish Jew comes nearer being immune than any other race, while the white American comes next in immunity.

Age has undoubtedly an influence and the peculiar part of this to me is, that more cases of pulmonary tuberculosis develop between

the ages of sixteen to thirty-five than any time from birth to old age, and yet during this period the resisting powers of the tissues is greater than at any other period. Again, why will the bacillus of tuberculosis have a special selection for the meninges in children from the ages of two to seven. We scarcely expect pulmonary consumption in children and meningial tuberculosis is not common in adult life.

Climate has also an influence in the development of tuberculosis and especially the pulmonary form. Climates characterized by frequent rapid changes in temperature are prone to consumption, owing to the catarrhal conditions of mucous membranes of the respiratory tract, and yet we see many persons with a chronic bronchitis that never develop tuberculosis. Although some claim that chronic bronchitis will ultimately become tubercular. This I am not prepared to confirm, but until it is disproven we have no cause to doubt it.

Hereditary predisposition certainly has an influence in the etiology of phthisis, but exactly in what way there seems to be a great deal of discussion. Of course we know that a child born of an afflicted mother from most any chronic disease has not the same resisting powers as one born of a mother in perfect health. A child born of a consumptive mother, even if it has not the disease when born, is in great danger of being infected later on and no doubt a great many of these cases are ascribed to heredity, when in reality they are not. It has been pretty satisfactorily proven that a fetus in utero may have imbedded in its tissues the bacillus of tuberculosis, but only in rare instances has this been proven.

Previous infectious diseases we know to have a decided influence in the causation of tuberculosis, such as influenza, measles, pneumonia, whooping cough, etc., and I know of three cases of acute miliary tuberculosis to follow measles during a severe epidemic in my neighborhood two years ago. These cases were all in adults from 22 to 50 years of age. So it behooves us to always be on the lookout for this dreaded disease in treating measles in grown up persons. It has also been said that certain diseases have an antagonistic effect, such as chronic valvular disease and pulmonary emphysema. But I can't see any real foundation for such a statement.

Occupation and environment we have seen from observation to have a predisposing influence in the causes of consumption. Persons whose employment exposes them to different forms of irritating vapors or dusts are prone to develop this disease, and it stands us in hand to remember this when dealing with an

incipient tuberculosis, for our aim should be in every disease to get rid of the cause as soon as possible, both exciting and predisposing. Some authors have said that a pleurisy was the beginning of pulmonary tuberculosis in a vast majority of the cases, but this seems somewhat exaggerated, since we know of many who have had several attacks of pleurisy that have never had any symptoms of consumption. I think the fact is, that a large proportion of the cases of apparently primary pleurisy are tuberculous in nature. But yet I think we may have a plastic inflammation of the pleura just the same as we can have of any other serous membrane without the presence of tubercle bacilli.

Now to come to the real cause of the widespread dissemination of tuberculosis we have a multitude of sins to cover, for we have said in the beginning of this discussion that the real cause was the germ of Koch. Heretofore there has been but little done to check the spread of this germ, for it has been wafted by the winds to the four corners of the earth and has been dealing out death in every path and byway. Yet until very recently was there scarcely any precautions taken, even by the medical profession to call a halt to the ravages of this deadly little bacillus. It is only of late that school children even in large cities have had any attention paid to their health by medical men, and since they have become awakened to the fact that many are infected simply by being confined in ill ventilated hot rooms it seems there will soon be a revolution in the hygiene of these places and the isolation of the infected will be rigidly enforced. It seems to me that the health boards have no more right to allow a child to sit all day long in an infected room from tuberculosis than they would one infected with diphtheria or scarlet fever, for we know that these germs lurk in the walls, floors, carpets, and in fact most any place about a building that has been infected. Churches, school buildings and places for public gatherings of all kinds have all been the cause of many cases of consumption and I know we have all been in dwelling apartments where we felt like we almost needed an armor of steel to keep out the germs of disease, yet we escaped unhurt because of our iron-clad constitutions or some other immunity which we could not explain.

Expectoration on sidewalks and streets by tubercular patients no doubt is another source of infection which has been but little thought of by the laity or even the medical profession until very recently. Of course we are told that the direct sunlight will kill the tubercle bacillus in from four to eight hours, but they are not always exposed to the direct

rays of the sun. We know they are very tenacious of life when harbored in dust or refuse from the streets, and hence we can never tell where or when we are going to breathe them into our lungs even when in the open air. It would no doubt be appalling to us if we had any way to know something of the number of tubercular patients that are spitting myriads of germs upon the sidewalks of large cities.

Take a city like Cincinnati during a dry season of the year and watch the winds pick up great clouds of dust from the infected streets and waft it into every home almost within the bounds of the city. Not only the tubercle bacillus but many other germs are carried in this way to the hosts that have not the power to turn them away. It has always seemed to me that railroad trains are a source of danger to the public, for there is absolutely no attention paid to ventilation during the winter months. The health boards have their posters in almost every car, and a warning in big letters, "No spitting on the floor; it tends to spread disease and is punishable by fine and imprisonment." But I have never heard of any one even being reprimanded for violating this notice. We know that tubercular patients are given every privilege that other passengers are on our trains and we know that almost every train carries one or more persons infected with this disease.

A few words would express the etiology of such death dealing blows as this and all other counties have suffered from this dreaded disease. It would be as if it had been the lethargy and indifference toward hygiene, both public and private and the isolation of those infected. We can scarcely realize what an influence these two words mean in connection with this worldwide epidemic.

MORPHINE—ITS USES AND ABUSES.*

By R. E. GRIFFIN, OWENSBORO.

In a brief symposium on the uses of morphine, I could not better begin the subject than in the language of Stevens Therapeutics: "Morphine is used to relieve pain and distress, to induce sleep, to allay peripheral irritation, to check excessive secretion, to promote diaphoresis, to control convulsions and to check hemorrhage."

Morphine is by far the best analgesic we possess. In allaying the severe pain of gross lesions, fractures, malignant growths and acute inflammations—it has no equal.

In neuralgia and other forms of recurrent pain it should be used only after all other measures have failed and then with extreme

care, since the danger of forming the opium habit in these cases is very great. In the painful crisis of locomotor ataxia its use becomes imperative.

Oster regards morphine hypodermically as the most useful drug in those attacks of agina pectoris in which amyl nitrite proves ineffective. In the various forms of colic—renal, biliary and intestinal—it is advisable to combine atropine with morphine, since the former aids the latter in relaxing the spasm.

While morphine will relieve insomnia from almost any cause, it is especially suitable in those cases in which the cause of sleeplessness is pain.

It is useful in continued fevers, such as typhoid fever and in delirium tremens and chorea, when the movements prevent sleep.

No remedy is so useful as opium or some of the derivatives in relieving the irritative cough of bronchitis and phthisis. It should not be employed, however, in pulmonary affections where the expectoration is copious and in pulmonary oedema morphine is a dangerous drug. In asthma, morphine hypodermically either with or without atropine, is a very reliable remedy.

In some cases of acute vomiting injections of morphine act very happily, but in the pernicious vomiting of pregnancy, its effects are not good. In the acute inflammatory affections of the bowels after the irritating matter has been removed, small doses of some of the preparations of opium are beneficial in reducing the excessive secretion.

In cholera morbus we see a most happy effect from the injection hypodermically of morphine and atropine combined.

It is a common practice to combine morphine with the hemostatics, in the various forms of hemorrhages, such as hemoptysis, hematemesis, enterorrhagia and postpartum hemorrhages. The good which it accomplishes here is probably due to the tranquilizing influences over the circulatory systems.

The use of morphine in connection with the operations of surgery has been practiced from the remotest antiquity, but their employment for the purpose of modifying and perfecting the anaesthetic process is of more recent origin. In 1863, a surgeon discovered that by the hypodermic injection of morphine at the commencement of inhalation, the anaesthesia produced by chloroform could be prolonged for several hours. A few years later a German surgeon attempted to reduce a dislocation of the shoulder which occurred in a person of a drunkard under his care. For this purpose he tried to relax the patient by a hypodermic injection of mor-

*Read before Kentucky State Medical Association, October 20, 1909.

phine; but failing in this attempt, he resorted to the use of chloroform.

To his surprise he found that an unusually small quantity of the anaesthetic was required to produce the desired effect. Pursuing the subject experimentally he came to the conclusion that an injection of morphine given ten minutes preceding the commencement of inhalations of anaesthetics, less of the agent was required to produce anaesthesia, than without, and the anaesthetic state persisted for a long time after the withdrawal of the anaesthetic. In this condition the patient remains perfectly passive, relaxed and insensible—a condition extremely favorable to successful surgery. Extending these observations to the respiratory organs and to the heart, it appears that morphine deadens the sensibility of the respiratory passages to such a degree that the inhalations of chloroform vapor produces less reflex disturbance of respiration and circulation. The pressure of blood is also better sustained in the arterial system by the stimulating effect of morphine upon the contractibility of the arterial coats and upon the motor ganglia of the heart.

In a brief way I have endeavored to present some of the uses of morphine as they come to us in every day practice, and while there is no drug in the *Materia Medica* so useful as morphine, or one with so wide a range of application, at the same time no other drug requires such careful handling by reason of the many influences which modify its use and action.

Many persons are found with idiosyncrasies in respect to morphine; some being easily narcotized, others being remarkably insusceptible to its action, and many suffer from a decided shock after its hypodermic administration, which may even produce alarming symptoms of collapse.

Morphinism is a disease which threatens to be one of the most serious menaces which accompany the 20th Century civilization. *Neuraesthesia* and *cerebrasthenia* are differentiations of nervous defects incident to the times, and morphine is a solace which gives temporary relief and conceals the real condition, while intensifying and increasing it.

In many cases the first use of morphine is followed by disturbances of the stomach and general irritation. These unpleasant effects are often easily overcome, and with repeated doses they grow less and less until they disappear altogether.

Any person who experiences relief from pain and discomfort by the use of morphine has received a pathologic impression the intensity and permanency of which will depend

upon the strength and sensitiveness of the organism. If he has no inherited predisposition to seek relief from every pain and discomfort, and is not a neurotic by inheritance, or by errors of living, the impression will be less marked and soon effaced; but if he has a neurotic tendency or a craving for relief from pain or suffers from nervous exhaustion, defective nutrition and control, the impression will be more or less permanent and its effects will not wear off at once. The repetition of the drug will constantly widen and deepen these pathologic defects, when the intervals between the use of the drug grow less and less and the changes will increase and intensify into a morbid craving. This is an indication of serious impairment of both the nutrition and control centers of the brain.

I would like to add in this connection that there is too little patience with pain, both within and without the profession in this day and time. A little more endurance and patience would, in a large number of instances, save men and women from becoming slaves to narcotism.

If such indurance were oftener the rule, it would frequently be found that the pains would prove evanescent, whereas the administration of morphine, though soothing for the moment, frequently tend to promote a renewal of the anguish. Resistance to an impulse to secure immediate suffering, is in many cases the most effectual abolisher of the original suffering, which can often be remedied by tracing and removing the cause.

No doubt irresponsible and irregular doctors contribute largely to the spread of this addiction. The custom of teaching patients to use the needle and furnishing them with morphine to relieve the unexpected pain paroxysms is very dangerous.

This practice undoubtedly makes many morphine victims.

Foolish physicians who think the whole province of medicine is to relieve pain under all circumstances and who use morphine in a routine way have made many victims to this class.

Many quack medicines for the relief of pain contain morphine and when this is discovered the purchaser buys the drug direct and its use is continued. Then again morphinism is due in large measure to modern civilization associated with rapid exhaustion following the changes of life and living; also from absence of nerve rest, and the continued strain in an effort to become adapted to new environment. This is accompanied by nervousness and pain for which morphine is a temporary alleviation. The impression once made of rest and removal of suffering is rare-

ly effaced, and the desire to resort to the remedy again under stress is so great as to be finally irresistible.

PYORRHEA ALVEOLARIS.*

By C. C. KEMPER, D. D. S., OWENTON.

When invited to prepare a paper on the subject of *Pyorrhea Alveolaris*, I gladly consented, for upon no other subject is there so much need of arousing the interest of general dental and medical practitioners. While the term *pyorrhea alveolaris* implies but one symptom common to several distinct varieties of disease of the pericementum, that of a flow of pus from the alveolus, it is generally understood as a term descriptive of degenerative conditions which have some distinctive features; these are a progressive loosening of the teeth attended by a loss of the retentive structures, alveolar walls, and pericementum, the loosening of the teeth being in a majority of cases attended by a flow of pus from the margin of the affected alveolus, and by deposits of calculi upon the sides of the denuded roots.

The disease ceases spontaneously with the loss of the teeth; the resorption, loss, or atrophy of the alveolar wall being arrested at any period of the disease, if the affected tooth be extracted. I shall have almost nothing to say of the etiology of *pyorrhea*. It seems to me a plain filth disease as we have to deal with it. My practice has been to regard systemic conditions as of decidedly less importance in the cure of *pyorrhea* than they are or than they may be in the possible prevention of *pyorrhea*.

I say "than they may be" because I don't think we have yet arrived at the point where we know much about the relation of systemic causes of *pyorrhea*.

Along that line, however, we may hope that the medical and dental professions may work harmoniously and successfully in ascertaining how systemic medication may prevent the deposits causing the initial local irritation in *pyorrhea*.

But let us consider for a moment, however, the primary cause of *pyorrhea*. It is an excessive deposit of calcareous matter upon the teeth? From my studies and experience I should say no, and I believe this would be the answer of every observing practitioner.

Does it not begin in the mouths of children who habitually neglect their teeth so far as personal care is concerned, and who never seek the services of a dentist, by an accumulation of particles of food under the free margin of the gums?

Unless removed, this slowly increases until

marked gingivitis is observable. If this case be let alone and watched, it will be found that by the time the patient, or rather person, is forty years old, or perhaps much earlier, the teeth will have become loose, their sockets nearly or quite destroyed, and the gums will have resumed a turgid, and ulcerating condition, with pus constantly exuding from the sockets of the soft tissue to which the teeth are now attached.

The progress of the destruction of tissue is now so rapid that in a few years more these same persons will be masticating upon their gums, or wearing a beautiful set of artificial teeth.

Treatment.—The first thing I do when a patient comes to me with a case of *pyorrhea* or with conditions leading thereto is to have a clear understanding with him as to the necessity of a positive radical treatment. I first wash the debris out of the pockets with a warm saline solution, then pack the gum tissue away with ropes of cotton, using a few drops of 2% cocaine solution and adrenalin chloride if the gums are very sensitive.

Remove this packing in a few minutes and dry the root off with the use of hot blasts of air so as to see the extent and nature of deposits. One can better see the deposits on a dry surface, so I endeavor so far as possible, to keep the surface of the root dry with blasts of air applied and with cotton rolls to take up the saliva. Before beginning instrumentation I pass a dull pointed probe into the pocket, if there is room enough, and outline the extent of the pocket, and also the location and extent of the deposit.

With suitable instruments for the case I scrape, cut and file around the root until the concretions are thoroughly removed, then fish out as much as I can with the instruments or blow them out with strong blasts of air. If the pocket is opened freely, I follow this with warm solution of peroxide of hydrogen, which, effervescing will bring the debris out, providing the opening into the pocket is large enough. When doing this kind of operation I endeavor to observe as strict antiseptic precautions as conditions will permit, so as not to carry infection into pouches or pockets.

I keep cleaning and sterilizing the instruments all the while. My usual method of applying remedies for average case is: First, use combination of lactic acid and aromatic sulphuric acid for two treatments to soften deposits, relieve sensitiveness of gum tissue and check pus formation before sealing, and one treatment after sealing. If pus has disappeared on first visit after sealing and polishing is completed, I know the teeth are clean, otherwise not.

*Read before the Owen County Medical Society.

In connection with this drug treatment I instruct the patient how to properly massage the gums after all the concretions have been removed and the surfaces polished.

Have them take a mouth full of cold water with perhaps the addition of a little astringent and with the end of the bare finger rub the gums firmly both inside and outside, above and below at least two or three times a day for two or three weeks. Also have them brush the teeth and gums firmly with a good stiff brush at least twice a day. I urge them to leave off the more highly nitrogenous foods and substitute more fruits, vegetables, etc., and the habit of drinking quantities of water.

To sum up: I believe that pyorrhea is the biggest problem we have in the whole of dentistry to-day. There is an unlimited field of work for us in the education of the people along this line and it is our daily duty to spend much time in setting our patients right on this subject.

WHEN IS ABORTION NECESSARY?*

BY J. J. RODMAN, OWENSBORO.

A question came up before this society at the last meeting, one which I was sadly in the minority. I refer to the case reported by Dr. ——— in which he produced abortion to relieve vomiting. Don't think for a minute that I am ready to apologize for what I then said, though opposed by every other member of the society. Having been called on to express my views on this vital question, I feel it my duty to raise my voice in defense of those thousands of innocent, unoffending, unborn human beings, that are not able to defend themselves, and for that reason are constantly being murdered, their lives counting for nothing more than a therapeutic agent. With a majority of the profession there is no hesitancy in destroying the unoffending foetus if the mother's life *seems* to be in danger. I use *seems* advisedly, for the danger in these cases is more apparent than real. In fact if nature is permitted to take its course the woman very seldom dies. I doubt if the death rate is greater than from artificial abortion. In the former case we lend a helping hand, and do all we can to relieve our patient, but permit death to take place from natural causes. In the latter we invade territory that is not ours to invade and willfully destroy one life, and perhaps both. Is there any law on our statute books permitting such an operation? Never a word! Suppose, after producing abortion and losing your patient, some Judas, and they exist in every community, should institute a suit for damages. All that would be necessary

for the physician to do would be to establish the facts. Then it would be necessary for you to prove that the woman's life was at stake, and that the action was *bona fide*.*

I am willing to admit, and do freely admit that you men are all conscientious in this matter and do what you think is best; hence I am not finding fault with any one, but trying to state the question as I see it, for I do think the subject was spoken of with too much levity at our last meeting.

Now the moral side, for this is a dual question. Here is the principle, "Never do evil that good may follow," or as it is oftener put, "The end never justifies the means." The principle once admitted that you are not justifiable in killing an innocent aggressor except in self defense, equally prohibits any interference with early gestation. For the moment of conception the foetus is living. It grows, and what grows has life. "*Homo est qui homo futurus*," says an ancient and high authority. Therefore foeticide is not permissible at any stage of utero gestation.

Abortion is the discharging of the child from the only place where it can live, and where Nature has placed it for that purpose. Therefore abortion directly kills the child as truly as plunging a man under water kills the man. Can you thus kill the child to save the mother? You cannot. Neither in this case nor in any other case can you do evil that good may follow. The end can never justify the means is a principle that all civilized nations acknowledge. Its opposite, that the end justifies the means, is so odious that the practice of it is a black stamp of ignominy on any man or set of men that would be guilty of it.—Coppens.

If once you grant that grave reasons would justify abortion, there is no telling where you will stop. Today, for instance, you are called to attend a mother, who you think must die if you do not bring on a miscarriage. You are urged to do it by herself and her husband, and perhaps by other physicians. There are money considerations too, and probable loss of practice. Will you yield to the temptation?

The next day you are visited by a most respectable lady, but she has been unfaithful to her marriage vow. The consequences of her fall are becoming evident. If her husband finds out her condition he will wreak a terrible vengeance. Her situation is sadder than that of the sick mother of the preceding day. You can easily remove the proof of her guilt, and spare a world of woes. Will you withstand the temptation?

The third day comes a young lady, the

*Read before the Daviess County Medical Society.

*Ref. Handbook, Vol. 1, page 28

daughter of an excellent family, bright prospects lie before her; her parents' lives and happiness are wrapped up in that girl. But in an evil hour she has been led astray. Now she is with child. She begs, she implores you to save her from ruin, and her parents from despair. If you do not help her, some other doctor or quack will do it, but you could do it so much better. If you should have yielded on the two former occasions, will you now refuse? The one is as meritorious as the other. In one death may be imminent, in the others worse than death is sure to come. If you destroy the foetus in the first case in hopes to free the woman from a perilous condition, why not in the other cases to deliver her from a certainty that is worse than death? If it would be criminal in the second and third cases, why not in the first? The means used are the same, the risk to the mother is the same, and the result to be gained in the latter cases is greater than in the first.

You notice I say death may be imminent, for we all know that the sympathetic phenomena of pregnancy are more alarming in appearance than in reality. For example, Mrs. ——— became pregnant and thereupon began to vomit; she vomited daily for three months. In fact very little nourishment was retained in all that time; she was attended by five physicians from first to last. She lost flesh, was continuously sick, was reduced to death's door. For a week death was hourly expected. She miscarried at this stage, and after a few days began to improve. But it was another month before she left her room, to such an extent had she been reduced. I was one of the physicians in constant attendance on that patient. I am not here to ask you men whether you approve my treatment or not. I used no questionable means, my conscience is easy, and my patient lives.

When in Louisville some time ago in attendance at the meeting of the State Medical Society I had the pleasure of meeting a gentleman whose wife some twenty years before was reduced to an extreme by the sick stomach and vomiting of pregnancy. The late Dr. John E. Crowe was in attendance. She became so dangerously sick that consultation was called. The consultant advised abortion, but Crowe objected. A third man was called. He also advised abortion and said the woman would die if it was not done. It looked that way to all. Still Crowe objected, but being overruled he quit the case. The operation was proposed to the husband. He said no. They said nothing else will save your wife's life. Her mother and sister insisted on having it done. But the good wife said: "Stay by me, John, and don't let them do anything wrong. Let me die, but do not permit them

to kill my innocent child." John stood by her and said: "I love my wife, but no murder must be done in my house." The mother lives today, and that foetus is one of the society girls of Louisville.

Suppose that young lady were told the circumstances, and was to meet those doctors. I wonder how they would go about apologizing for their unwarranted attack on her life. What do the authors say on the subject?

After advising the use of all remedies, among them dilatation of the cervix, and rectal alimentation, Luck says: "In very rare instances the vomiting becomes incessant, and resists every remedy. If death from starvation threatens, it may become necessary as an ultimate resource to terminate pregnancy by artificial means."

Playfair says: "Finally in the worst class of cases, and when the patient has fallen into that condition of extreme prostration, already described, we may be driven to consider the necessity of producing artificial abortion. Fortunately, cases justifying this extreme resource are of great rarity."

"Carl Braun," says Jaggard in *Pepper's System of Medicine*, "gives expression to the very general professional conviction upon this subject in the following words: 'I myself have never observed a lethal issue in consequence of uncontrollable vomiting of pregnancy, lay the greatest weight upon the expectant management and more modern medication, and am of the opinion that after a conscientious estimate of all considerations, artificial abortion can be omitted, notwithstanding its permissibility from a scientific point of view, when extreme danger to maternal life has been determined by several physicians.'"—Vol. 4, page 412.

PERFORATION FROM TYPHOID FEVER.*

BY E. A. STEVENS, MAYFIELD.

Perforation is the most fatal complication likely to occur in typhoid fever. It is so fatal that most physicians upon its occurrence and diagnosis, announce to the patient's family and friends that the case is hopeless and relief from pain is all that is attempted. To show how little hope there is for the patient, Alleben in his exhaustive paper on this subject read before the A. M. A. in 1907, could report only five hundred and twenty-four operations mentioned in all the literature of the world, performed for this condition and he figured that the United States alone had sixteen thousand deaths an-

*Read before the Southwestern Kentucky Medical Association, Paducah.

nally from perforation in typhoid fever. Alfred Jerome Brown, who read his paper on the diagnosis of this condition in 1908, before the same association, claimed that there were about 25,000 deaths annually from this complication in the United States. If that number of people die in the United States alone, and only five hundred and twenty-four operations have been reported in the past twenty-five years, since the operation was proposed by Leyden, it seems certain that many cases are allowed to die without any efforts being made to save them, when expert operators and all the conveniences of modern hospitals are at hand. And though the statistics show at least three to one chances against the patient's recovery his chances are most brilliant as against the absolute certainty of the non-operative plan. I take it for granted that there have been many more operations than the 524 mentioned, but it is practically certain that all of them ended fatally. Consequently the death rate, even with an operation, is higher than the statistics of three to one indicate. But with the death rate of 100% without operation, the saving of ten, fifteen or twenty per cent. would be a big improvement, for it is a disease that is not likely to recur and usually occurs in those in the prime of life. Besides, this is not a disease confined to the backwoods, but thrives most where surgeons and hospitals are most numerous, in the towns and large cities. A surgeon will go into the abdomen at the first intimation of appendicitis, when to say the worst for him he has a chance to get well, or at least to get up, while the man with the perforation is absolutely hopeless and the statistics show that the surgeon stands aloof. Possibly one cause for the refusal of the surgeon to operate or the family to permit it, is that in many cases the patient is already near death's door, but this is not always the case, for in nearly twenty-five years of practice I have seen about two dozen cases of this kind and some of them were in remarkably good condition at the time of the perforation and lived for several days.

In July 1908, when the article by Dr. Murphy on Perforative Peritonitis came out in the *Journal of Surgery and Gynecology*, with its improved technique and splendid results, I announced to some of my medical friends that I was going to give the next patient that I had with perforation in typhoid fever the chance for an operation, and a case that I had on hand at that time gave me my opportunity. In some of the cases it is a hard matter to make out the diagnosis at first owing to the stupor, but in many cases it is easy because the symptoms are well marked and definite.

The signs and symptoms of perforation are those of peritonitis plus the symptoms of shock at the time the perforation occurs.

While there is no sign or symptom that can be said to be pathognomonic, yet there is a train of symptoms that can be usually relied upon to make out a diagnosis. Yet in the cases mentioned as having been operated upon in the literature, several were found free from perforation when the diagnosis of perforation had been made, and the case operated upon on the strength of this diagnosis.

In patients with a clear mind pain is the most prominent and the earliest symptom, followed by all the symptoms of septic peritonitis, such as the increase in the pulse rate, with a change in its character, tension of the abdominal muscles, with distension of the abdomen, restlessness and increase of fever. The writer says that the indications are so plain that that he could always tell when it existed regardless of whether the patient could speak the language he was familiar with or not. Alfred Jerome Brown calls attention to two symptoms not usually known. There is the dipping crackle, as he terms it, produced by placing the bell of a stethoscope over the iliac region, and suddenly dipping it down a very fine crackle could be heard, supposed to be the sticking and separating of inflamed surfaces of peritoneum. The other is produced by changing the position of the patient when the point of tenderness first develops after the perforation. Turn the patient to the opposite side and in half an hour the tenderness will extend toward the side on which he is lying at least two inches. This is a sign that in my opinion should not be brought out, because as soon as perforation is suspected the patient should be put in the Fowler position and kept there till he has been operated on, and is either dead or out of danger. The Fowler position is the semi-erect position of the body, usually with the limbs drawn up. The purpose of this is to allow all pus, blood and fecal matter to settle to the lowest point of the abdomen, because in that position it does less harm and can be more easily drained. It is much harder to diagnose perforation in a patient profoundly stupid, but even then these symptoms and signs will soon make themselves reasonably plain. The leucocyte count has been found to be practically worthless in this condition, as it shows an increase too late to be of any value. The three important points are the sudden pain, the rigidity and the tenderness of the abdomen, with distention which usually comes on early. With the improvement in the management of perforative peritonitis, as presented by Dr. Murphy, above mentioned, it appears to me that there

should be very few of these cases permitted to die without operation. He reports about fifty cases of perforative peritonitis with only two or three deaths. These included perforation in typhoid fever, ulcer of the stomach and duodenum, and appendicitis. The rule is to operate as soon as possible after diagnosis is made, and to keep the patient in the Fowler position while you are preparing for the operation. The perforation will most likely occur in the last eighteen inches of ileum, though it has been reported in the large intestine, appendix, jejunum and Meckels diverticulum. It is usually advisable to make the incision into the abdomen at the right edge of the rectus muscle, with the patient's upper half somewhat elevated. As soon after the operation is over and he is able to bear it, put him in the Fowler position. When the perforation is found, most writers advise that it be closed with silk or linen, but I do not think this is absolutely necessary, for the further details of the operation I will bring out in the cases reported.

Case 1. About the first day of July, 1908, the patient whom I wish to exhibit was taken sick with typhoid fever, following a prolonged bathing in a muddy neighboring creek. At the time, he took a cold, accompanied by hoarseness and a little fever. At this time Dr. A. P. Hendley was passing the house going to see another patient. On account of the child's fever he was asked to stop to see him. He made several additional visits and pretty soon made a diagnosis of typhoid fever. As I was usually the family physician, and the patient was growing worse, he asked me to go to see the patient with him, which I did. Then in consideration of the fact that his call was accidental, he requested me as a favor to him to take the case off his hands, which I consented to do. I first saw the patient on July 13th and on the second visit, on July 15th, found he had had a small hemorrhage from the bowels. At this time he was having three or four actions per day, which continued until after the perforation. His temperature ran from 102½ to 104 in the afternoon. He had a bad cough, with rales profusely scattered through his lungs, as a continuation of the early cold and bronchitis. He was drowsy and had practically all the symptoms of typhoid fever. He had three or four small hemorrhages, but on the 4th or 5th of August, he developed a catarrhal pneumonia, about equal in both lungs, and his drowsiness increased. On the 7th he grew restless, and when he would move complained of pain in his abdomen, and when I reached the boy that day I noticed marked rigidity in the abdominal muscles, with tenderness on pressure. But he was so stupid I was not sure of the

perforation. I told the family what I feared and I put the boy in a modified Fowler position and kept him there. His pain grew worse in the night, his bowels ceased to move and at 4:30 the next morning the symptoms were so aggravated that I was called to see him. He lived four miles in the country and when I got there I was confident that he had had a perforation, and I told the family his only hopes was an operation, to which they readily consented. I got my help and made my arrangements by eleven o'clock. Something like twenty-five hours after the perforation had occurred. His condition was bad—pulse small, hard and 130, pneumonia easy to detect in both lungs, with breathing between thirty and forty per minute, with temperature not high, but I have no exact record of it. This was an increase of the pulse rate of from 15 to 20 per minute. Dr. J. L. Dismukes, Jr., and Dr. John H. Shelton were called to help me. Chloroform was the anæsthetic. He took it nicely. I made the incision in the median line and have no reason to object to this point if I was going to operate again. As soon as the cavity was entered, a gush of gas followed by pus came out through the opening. No effort was made to empty the pus, but a knuckle of ileum was drawn out of the wound and the search for the perforation commenced. The gas and pus made it absolutely certain that the perforation existed. I had never seen a typhoid perforation in the living person, and I hardly knew what to expect when I found it, but after I had drawn out about 18 inches of intestine, covering it with warm, wet towels, I discovered the perforation, which was very plain indeed and looked like a bullet hole and was situated at the point opposite the mesentery.

On inspection the perforation with its area of erosion and discoloration was about the size of a dime made a little oval. The belly contained fecal matter and a pint or more of pus. I did not search further for other perforations, as I did not believe they existed and I did not think my patient was in condition to bear it. There was no effort to trim out the eroded edges of the ulcer. There was little or no induration about the perforation, and the intestine was not greatly distended. A small cat gut ligature sterilized by the Bartlett process was placed around the perforation as a purse string suture, taking care to interfere as little as possible with the calibre of the intestine. Over this was used a Lembert suture of cat gut. The intestine was put back in the abdomen and a large soft rubber tube was put down to the bottom of the cul de sac between the bladder and rectum and stitched into the lower angle of the wound, which was allowed to stay in

for six days, when it was removed, and the cavity gently packed with gauze. This was continued until the cavity grew so small that the gauze could not be inserted. The wound was closed with silk worm gut and he was put in the Fowler position. He was given a quart of saline into the bowels according to Dr. Murphy's plan, every three hours. It was given as well as you could have expected from people untrained to do this work. I had no trained nurse during any part of his sickness. About the end of forty-eight hours the discharge from the tube which was quite free began to have a fecal odor and a yellowish green color. On the next day it was worse and on the 5th day the fecal discharge from the wound was very free. Shortly after this time I wrote Dr. Murphy and asked for advice in regard to a second operation. Dr. Murphy was in Europe, but his first assistant, Dr. Neff, wrote me a very encouraging letter, telling me that several of their successful cases had leaked for a time and then fully recovered. He received no food by the mouth until about the end of the third day, when he began to take a teaspoonful of peptonoids. He did not vomit, but feeding increased the discharge from the wound. His fever was going to about 102 in the afternoon.

His cough was distressing, as it gave him pain, and he coughed a great deal. For a few days he lost so much of his food by this leakage that his bowels did not move but very little, even when washed out by the syringe. The normal salt solution was gradually reduced until at the end of the first week it was left off. At the end of two weeks the leakage began to diminish rapidly and by the first week in September the passing of the food product had practically stopped, and only a small amount of pus escaped from the wound. On September 3rd I made my last visit to him, and in about two weeks they reported the fistula closed. Before he began to improve, he was about as near a skeleton as I ever saw in an acute case. His mind was bad and he was nitiful to behold. But when I ceased going to see him he was improving rapidly and the family had learned to take care of the dressing. There was no haesket in his case and he gained his flesh with reasonable rapidity.

Case 2. The second case I saw was one of Dr. Fuller's that had general peritonitis, with typhoid fever, and though it did not look like a perforation, the symptoms of general peritonitis were well marked and there was no chance for him except an operation. When we opened the abdomen, we found a very different condition. There was much more tension and fluid than in the former case, which was perceptible before the operation.

The incision was made in the median line, under chloroform, and the abdominal cavity contained more than a pint of pus and the intestines were enormously distended above the ileo-cecal valve, being larger than the normal colon. They were much injected and filled nearly full of a foul, stagnant, mucous-purulent substance mixed with feces. There appeared to be a complete paralysis of this portion of the intestine, and we could not empty it into the larger intestine, and a few inches above the valve there were two gangrenous spots; the greatest width of the gangrene was opposite the mesentery, but extending each way almost to the mesentery. There was no opening in them. When I picked these gangrenous spots up between my finger and thumb, they each contained a hard base like a Hunterian chancre, quite in contrast to the soft ulcer in the preceding case, and the entire abdomen looked different from the first one. This in my judgment was typhoid plus a streptococci infection, though there was no examination made with the microscope, while the other was not. I made an incision into the intestine at the point of the largest gangrenous spot, after drawing it out of the abdomen and emptied about a quart of the material above mentioned out through this incision. The intestines were so full and heavy that it was very hard to handle them. I have never seen an intestine so distended and holding so much fluid material. I stitched the portion of the bowel containing the incision into the upper angle of the wound in the abdominal wall so that the intestine could further empty itself through this incision, which I expected it could do. But the paralysis was so pronounced that although he lived twelve hours, no part of this material was emptied out. A large drain tube was used in the cul de sac for this case as was used with the other. He came near dying about the time he was taken off the table, but rallied and lived until the following morning. I saw another case which in my judgment was perforation from typhoid fever, but he died within a few minutes after I got in the house, and of course no operation was attempted. I was in consultation with Dr. A. A. Hurt, but was delayed in getting to the case after I was called. While the literature I have been able to see since the publication of Dr. Murphy's article does not show any large increase in the number of operations done for this condition, I feel sure it will show it, for I have seen enough of his methods in my own practice since that time to convince me that it is a great improvement over that in general use before that time. I did not use silk, cotton nor linen in repairing this perforation, because I dreaded the possible fis-

tula that might follow any non-absorbable material and I had heard Dr. Wyeth insist that cat gut was good anywhere a suture was needed, and I knew with the large amount of infection in the abdomen the stitches might possibly cause a fistula. I think the next operation I undertake of this kind I will use for the first row of sutures linen as I saw Dr. W. J. Mayo do in a large opening in the sigmoid flexure, the result of a pelvic abscess and adhesion. The first row of sutures was through and through all the coats on both sides, the sutures tied tight with the statement from him that they would cut through and fall into the lumen of the bowels. They were interrupted sutures. Over this he put a row of Lembert sutures. Dr. Murphy says these cases should be operated upon even when the face is blue from capillary stasis. Use intravenous injection of normal salt solution and administer and operate while the patient is stimulated by this treatment. He also recommends a daily dose of the anti-streptococic serum. The first case reported here looked better in one hour after the operation was over.

THE PHENOMENA OF MALARIA.*

BY WILLIAM BLAIR, GLENSFORK.

Dunglison defines malaria to be "bad air," but in late years investigators are finding out more and more about malaria and its mode of infection, till it is now regarded as a tangible subject. To the older writers and teachers malaria was an intangible something, like electricity is to-day, that they knew nothing about, except from its effects. Dr. T. S. Bell, late of the University of Louisville, than whom there has not lived a greater master of medical philosophy, taught his classes during the seventies that malaria was always produced by a local cause. That it required three factors to produce it, to-wit, heat, moisture, and vegetable decomposition. That if any of these factors is wanting, the disease never appears. The older members of this society doubtless remember his teachings in his lectures on the phenomena of malaria; that it requires a daily mean temperature of 60 degrees for days, together with moisture and vegetable decomposition to produce intermittent and remittent fever; a daily mean temperature of fifty-five degrees with the other two factors to produce dysentery, a daily mean temperature of seventy degrees, with the other two factors to produce cholera, and a daily mean temperature of seventy-five degrees with moisture and vegetable decomposition to produce yellow fever, that when the disease was developed, no person was liable to contract the disease in day time, nor

in the night, unless he slept in the near vicinity of the place where the cause was operating. That a person rarely takes any malaria if he slept in the third story of a good house, that is twenty or more feet from the ground. He also taught that no person would contract any malarial disease while under the influence of the salts of cinchona. He also taught that malaria might become latent and lie in the system for an indefinite time, and then develop the disease in the same form as those taking it at the first outbreak, and yet after he taught so graphically the phenomena of malaria, he only knew it by its effects. A student of the class of '74 and '75 sent him a note one day asking him what is malaria? and he said that he did not know, he only it by its effects. The electrician of to-day knows electricity by its effects. Malaria was known to be developed near bogs, ponds and other stagnant waters, when vegetable decomposition was going on. Some supposed without reason, that it was carbonic acid. But modern research with the microscope has revealed the disease, and shows it to be a microbe called malarial bacillus, malaria parasite, etc. While the microscope has revealed the germs of the malarial diseases, it does not disprove the Bell theory of malaria, but rather strengthens it. Neither does the Bell theory conflict with the germ theory, but corroborates it. While it is admitted by practically all investigators that malaria is transmitted from marsh to man, and from man to man by the anopheles mosquito, it is also recognized that a predisposition to the disease may be acquired by over exertion, by insufficient or poor food, by chilling the body, by previous exhausting disease, etc. Furthermore, parasite may remain in the spleen, liver, the marrow of bone for an indefinite time. The parasite may reinvade the blood from these organs, and cause further clinical phenomena. Such cases of recurrent malarial fever have long been recognized (the latent malaria of Bell). Quinine has apparently but little effect upon the parasite while hidden in the organs and marrow.

Dr. McSwain says in *Southern Practitioner*: "As now understood, the anopheles mosquito draws the blood from the malarial subject, in which fluid are contained the protozoa of Laverin, after having been taken into the digestive organs of the mosquito changes in the ingested blood, soon begins to take place. There is in a few days development of flagella which penetrates the coats of the digestive tracts of the mosquito, and within about seven days the spores of malaria are taken up by the absorbent vessels, and stand in the salivary glands of the insect. These glands are two in number and are situated on either side

*Read before the Adair County Medical Society.

of the insect's throat from which little ducts communicate with the proboscis. Now the very act of biting propels the fluid contained into the cellular tissue of the human being from which they are transmitted into the blood plasma. These spores are hyaline bodies, after a time penetrate the red corpuscles and at once enter upon their destructive work of deterioration." The behaviour of the parasite when brought by the mosquito from the bogs, swamp or stagnant pond is the same as when drawn from the malarial subject in fluid blood. It is now known that the mosquito is a carrier of the malarial germ. It has not been demonstrated that the mosquito is the only means of conveying the malarial parasite, but many investigators believe the insect to be the only carrier, at least, the only one that we know of. Dr. Bell said that it takes sixty days with a daily mean temperature of sixty degrees of heat with moisture and vegetable decomposition to produce intermittent or remittent fever. This is very reasonable when we learn that the germ of malaria has to be raised on the edges of swamps and ponds and then sucked up by a certain kind of mosquito, and deposited in the cellular tissue of the human. Perhaps it takes that much heat to develop the mosquito. The Bell theory teaches that malaria is always contracted at night. That is because the carrier of malaria, the mosquito, is a night insect, seldom making voyages in day time. Bell taught that the malarial diseases were not likely to be contracted unless we sleep where the cause is in operation. This is because we are not apt to sit still and let mosquitoes suck our blood when awake. Bell taught that malaria was seldom contracted in the third story of a house that is twenty feet from the ground. The habit of the mosquitoes is to stay near the earth. Bell taught that a wall twenty feet high would obstruct or stop the spread of malaria. Modern investigators say that malaria will not spread advertically very high, nor horizontally more than one-fourth to two miles. This is about the extent of the voyages of the mosquito. Not all mosquitoes are carriers of malarial germs. The insects that are hatched in water barrels under gutters or in buckets are not carriers; only the mosquitoes that breed in water charged with the germs of malaria are dangerous. One writer says that the domestic mosquito when at rest on a wall sits with its head on a level with its body. Anopheles, and some other varieties that are carriers of disease germs always when at rest, sit with the head near the wall. As I said awhile ago, the Bell theory of malaria is rather strengthened by the mosquito theory, so the mosquito theory is strengthened by the Bell theory. Bell as

well as all other teachers and writers, treat malarial diseases with the salts of cinchona, of which quinine stands at the head, but none of the older teachers or writers understood the *modus operandi* of their treatment till the bacillus or germ was discovered. King holds that quinine kills the malarial parasite in the blood. Galli-Veleria, and other Italians claim different kinds of malarial parasites, one kind causing one type of disease, others other types, for instance, one kind producing tertian, another kind quartan and another kind pernicious intermittent. So also one kind might produce remittent fever, another kind yellow fever, another dysentery, and still another cholera; all these and many others being malaria disease according to Bell. The Italians have demonstrated that malaria spreads horizontally from an infected focus from a minimum of one-fourth to a maximum of two to four kilometers or less than two and a half miles. As I said before it spreads vertically only a very short distance; not so much as the third story of a good house according to Bell. These facts correspond to the habits of the mosquito, but the insect can be carried in hay, etc., to long distances. In certain elevated communities in Italy, it has long been forbidden to bring hay from the marshes, as it was observed that sickness followed when this was done. As in all other parasitic diseases, a predisposition to malaria can be acquired by overexertion, insufficient food, chilling the body, etc. Serum treatment has not proven a success in malaria. Attempts to exterminate mosquitoes by cultivating fish and dragon flies have been successful. Celli has found that larva can be killed in water by pouring kerosine or larvicide on top of the water. This matter is analine dye, and it and kerosine are both cheap. Oil of turpentine, garlic, and tobacco smoke have been successfully applied against the adult mosquito, but the most reliable prophylactic measure is to protect the body against mosquitoes by proper netting over the doors and windows. Fermi succeeded in banishing mosquitoes from the Island of Asinar by petroleum on the waters. And while there had been plenty of malaria in previous years, that was not a case on the island that year. Persons living in malarial districts should use preventive treatment, quinine or arsenic; also there should be an effort made to drain and dry the marshy ground which favors the propagation of the malarial germ, and their carrier, the mosquitoes. In the language of the Harvard poet,

"And the robin clears the garden
Of the surplus bugs and worms,
While the little fresh mosquito
Peddles out the fever germs."

A FEW REMARKS ON HEAD INJURIES
WITH REPORT OF CASES.*

BY D. C. DONAN, JR., HORSE CAVE.

In this paper the writer has confined himself to scalp wounds and fractures of the vault of the cranium.

There are two things we should always bear in mind in dealing with head injuries, and these are danger and diagnosis. Sometimes it is with difficulty that we determine the extent of an injury to the head either by the history of the case or the symptoms. It therefore behooves us to proceed with caution and not to make a hasty diagnosis, for, the patient as well as our own sake. The writer recalls a case in which an associate sutured a scalp wound, which later came to be operated on as a compound fracture of the vault complicated with meningitis and cranial abscess, with a fatal issue. In dealing with the most trivial contusion of the scalp we should bear in mind the dangers of abscess of this region; also the dangers of the vault.

My management of this sort of cases is about as follows: The scalp around the injury is first shaved, then with sterile hands the wound is ready for examination—being surrounded with sterile gauze or towels. If dirt or grease are present, and this is usually the case, we begin by cleansing with ether and alcohol. If these are not at hand use Tr. Iodine and water as an irrigation. A sterile probe in an unclean wound will only spread infection. Simple incised wounds can be inspected by retracting the edges. Punctured wounds should be laid open, then cleansed. This guards against tetanus or any other infection. If the edges of the wound are jagged little or no tissue should be sacrificed, since the blood supply is plentiful and repair is easy to get in this region. In large wounds we use interrupted sutures of silk-worm-gut, first placing a few strands of this material in the bottom of the wound for the purpose of drainage.

Contusions are the seat of a great deal of edema, occasionally, and a hematoma is sometimes present. If in doubt incise down to the pericranium; this is also a good method of treating a large hematoma. Cases in which the diagnosis is uncertain as to the presence of fracture should also be incised. A simple linear one is known by the red line and in the absence of other symptoms should be sutured and kept under observation for a week or more for further developments. If a depressed portion is seen it must be elevated or removed altogether under general anesthesia of course.

Hemorrhage is controlled by packing a piece of catgut into the canal containing the bleeding vessel, or by applying enough pressure by means of Rongeur forceps to squeeze the tables together. We always drain with a small wick of gauze, which may be removed in from 12 to 24 hours. The dangers to be considered in these cases are (1) brain injury; (2) tetanus; (3) sepsis, these directly; remotely: (1) epilepsy; (2) impaired mentality; (3) chronic headaches.

Case 1. A boy 9 years of age, referred by Dr. Siddens, was kicked in the head by an unshod mule and fell, tumbling for 9 or 10 feet. The accident happened at 10 a. m. on the morning of July 4th, 1909. I saw him at 5 p. m. in the evening and began preparing to operate at once. We made an emergency operating room out of the dining room and under chloroform the wound was enlarged sufficient to make a diagnosis of compound depressed fracture of the vault—the wound being in the right frontal region hairy portion. A piece of bone larger than a quarter was removed revealing a small clot on the dura. The clot was turned out and copious hemorrhage ensued. With Rongeur forceps the edges were trimmed even and the hemorrhage controlled by squeezing the tables together lightly. The dura looked dark and was opened, but nothing was found. The whole field was then irrigated with sterile normal saline solution, a gauze drain inserted and the wound sutured with silk-worm-gut. Recovery was without incident.

Case 2. A middle aged man was admitted to the surgical ward of the Louisville City Hospital during my service. He had about eight or ten scalp wounds, the result of a melee with two policemen. There was also a short linear fracture of the left frontal, external table. Everything was cleaned up as well as possible, but owing to the fact that the blood supply was almost completely cut off a place as large as a dollar on the left parietal boss we feared sloughing, which took place and progressed until a large piece came away, a piece of the aponeurotic sheath, the skin and subcutaneous tissues remaining in situ. From the beginning pus continually drained away till the slough came, when it stopped in a few days and granulation began. It was a staphylococcus infection; recovery soon followed.

Case 3. In September, 1909, I was called to see a colored boy 12 years of age. Examination showed a temperature of 103 F., pulse 120, respirations 32, with a tumor of the frontal region extending to the root of the nose. It fluctuated on pressure and the edges were edematous. His father said that about five years previous he fell out of the

*Read before the Muldraugh Hill Medical Society.

door and sustained a bump in this region. I made a diagnosis of abscess and osteomyelitis and advised operation, which was refused. After explaining the condition I got consent to incise the abscess, which I did. I also made a counter opening at the root of the nose. Drainage was kept up until healing began, when the case was discharged. About eight weeks later I was called to the same case. He was having chills, fever and sweats, greatly emaciated and at times delirious. A small tumor underlaid the scar. Temperature 101 F.; pulse 108. I advised them there was little chance for recovery. An operation was agreed upon and done. A flap was turned back and a sequestrum as large as a small grain of corn brought into view. It was easily removed and the Rongeur forceps applied to enlarge the opening. A small abscess leading to the superior longitudinal sinus was discovered, the sinus felt soft as far as explored. After irrigating a drain was inserted and the scalp sutured. The patient went into coma on the third day and died.

Case 4. In September, 1909, I was called to see a case with Dr. Comstock. A boy 11 years of age had been kicked by a horse at 4 P. M. in the afternoon. Examination showed a ragged dirty wound of the frontal region. The parents stated that a great deal of hemorrhage had taken place. He had a temperature of 99 and a pulse of 96. The kitchen was made for the time being an emergency operating room. Under chloroform anesthesia several scales of bone were removed. The trephine opening was as large as a half dollar when ready for the drain, which protruded just a little above the frontal sinus. The edges of the wound were coated with sutures. On the third day post-operative he had a characteristic trifacial neuralgia. This responded easily to quinine and aconite. Two days later he began with an afternoon temperature of 100 F. and headache, pulse 80 to 88. On alternate days the temperature was higher than the day before, small doses of quinine relieved the headache and 15 grains *per day* relieved all the symptoms. The drain was removed on the first visit; on the fifth day the wound began to discharge; two days later it was opened and a small spicule of bone removed; after this recovery was uneventful.

PRACTICAL INFANT FEEDING.*

BY PHILIP F. BARBOUR, LOUISVILLE.

It is said that a great number of remedies suggested for any disease is a sure sign that none of them is of much value in relieving that disease. Judging by the great number

of foods suggested for infants one is constrained to believe that the feeding of infants is not always an easy procedure. There are so many new developments of knowledge of the phenomena of digestion made possible by the mere scientific study of physiology that many of the older theories of feeding have been shown to have been incorrect. The chemistry of milk both that of the mother and of the cow have made marvelous advancement. The physiology of digestion has had to be rewritten. Even the teleology of milk has recently been outlined more clearly by the studies of Chapin. For all these reasons we approach the subject of feeding from rather a different view point from our predecessors. Many writers discussing this subject from a theoretic standpoint have enveloped this subject in an ultra scientific atmosphere so that many of the features are indistinct to the average person. Some investigators have brought forward the percentage method of feeding and have suggested innumerable formulae for the modification of milk in order to obtain infinitesimally small differences in the percentage of the various constituents of cow's milk not remembering that the difference between the fore and latter milk of the mother frequently varies as much as two per cent. Indeed, it would sometimes seem that the word percentage has become a fetish and that one is attempting to get a certain percentage rather than get a suitable food for the infant. I do not mean at all to decry percentage methods in facilitating the accurate feeding of the infant, but there has been too much of an attempt to feed high percentages of cream, simply because mother's milk contains a relatively high percentage of fat. Some serious disorders of metabolism have arisen from this tendency.

The constituents of mother's milk and cow's milk go by the same name and are called respectively the proteids, fat, sugar, salts, and water. Of all these constituents, we are not certain of the identity of any except the water. It is possible that the sugar of milk in the two is identical. The salts are somewhat different, the cow's milk being richer in chlorine and calcium. The proportion of salts is very much greater in cow's milk. When we come to the proteids and the fats we shall find that there are radical and characteristic differences in the molecular structure of these constituents of the milk. It is these which give most of the trouble in the feeding of infants, for if the salts and the sugar are present in anything like a normal amount, the child will handle them without any difficulty. It will not be out of place here to refer to the epoch marking work of

*Read before the Muldraugh Hill Medical Society.

Czerny and Keller, who characterize the results of over feeding of sugar by the word "sugar injury," which is manifested by an increase of acid from the decomposition of sugar and which usually causes acid diarrhoea with the accompanying acrid discharges, the irritation and impetigo of the buttocks, the ballooning up of the bowels and the other symptoms which would result from the fermentation of the sugar. The changes which take place in a molasses barrel in the summer time find their counterpart in the fermentation of the sugar in the intestinal tract. When the child has acid stools with much tympany the rational suggestion is to lessen the amount of sugar in the food.

This leaves for our consideration the proteid and the fat. We shall take up the proteid first. The leaders of the profession have nearly boxed the compass in their views of the digestibility of proteids. It has always been considered much the most indigestible portion of the milk because so-called curds were found in the stool. Chemical analysis will show that the great majority of these so-called curds are made up of fat and not of proteid at all. The German school led by Czerny and Keller have shown that it is fat which is found in the curded masses, which fat may be in the form of a neutral fat, a fatty acid or a soap. I have examined enough of such stools to substantiate this from my own experience. Prof. Wall, of Chicago, goes so far as to say that the proteid never occasions indigestion, but this is too radical an assertion. When whole or skimmed milk is fed to some infants, the stools will show whitish lumps having a foul albuminous odor, and although certain proteid tests fail to show the proteid reaction in a characteristic manner on account of the complicating bacteria which make up such a large proportion of the stool normally, yet a change in the diet and cutting out the proteid soon eliminated the putrefaction and the foul odors. Such stools then indicate too much proteid in the food.

The practical question then arises what shall be done when the baby shows by the stool the indigestion of the casein? The amount of casein may be lessened by greater dilution of the milk. We cannot go on indefinitely diluting the milk, for we shall soon reach the point where the baby will not get sufficient nourishment out of its food and will be restless and unsatisfied when it has finished with its bottle or will begin to cry before the time for feeding has nearly returned or will fail to grow in weight as it should or as the nurses say, it will act hungry. A child should get one-fourth of one per cent. of its weight in proteid per day. That is a baby

weighing ten pounds should get the amount of proteid in a pint of milk in order to get its necessary nitrogenous food. Now if the child cannot digest this amount of proteid we can resort to several measures to help digest the proteid.

Barley water is one of the most useful of all these measures when used in the proportion of one-third or one-fourth and the barley should be boiled for several hours, as long as cooking effects a change in the starch molecule, making it much more digestible. Sometimes rice or oatmeal will prove more satisfactory than the barley, but the indications as to which will be the best has not been worked out as yet and can be determined only by trial. Mellin's or Eskay's food will sometimes be helpful in place of the barley. We can also use lime water in larger amounts up to one-third the amount prepared. While in London I saw Poynton use sodium citrate at the great Ormond Street Hospital clinic with the most gratifying results. He used it in doses of one grain to each ounce of milk. If these measures fail we can resort to the predigestion of the milk with the peptogenic milk powder or other similar preparation. The cold process is not so good for preparing the bottle for babies because in warming up the milk further peptonization takes place and a bitter peptone flavor develops which turns the baby against the milk. Failing in these, good results may be obtained at times by the use of condensed milk. Almost any child will do well on condensed milk, but the same result follows its too long use that we see so often after the too long continued use of predigested milk, and that is that the baby ceases to gain in weight and will remain at a stand still for weeks and months. Whenever such food has agreed with the child and improvement has resulted, we should immediately begin to lessen the amount of peptogenic powder so as to discontinue its use as rapidly as the digestive capacity of the baby will allow. In the case of condensed milk, the attempt should be made to substitute one feeding of fresh milk properly modified and thus gradually change to a milk which will be adapted to continuous use. Both condensed milk and peptonized milk form very small curds in the stomach and in cases of difficult digestion this is quite a desideratum, but the studies of Chapin have shown that a certain amount of curd is necessary to develop the motor power of the stomach wall and therefore too small curds do not furnish sufficient stimulus of that character. The result is seen in the failing power of digestion which always follows the too long use of either of these foods. Many specialists have secured good results in the handling of the

proteids by giving buttermilk or sometimes skimmed milk or by using the split proteids, that is by using whey as the basis and adding small quantities of skimmed or other milk to the mixture.

Some babies seem not to be able to handle cow's milk at all without suffering. We can temporize in such cases by adding the white of an egg to the pint of barley water and using such a mixture for two weeks and then returning to a very diluted milk mixture. Egg albumin will not substitute indefinitely for the casein, in fact no other form of proteid seems to be perfectly adapted to the needs of the infant, and therefore, we must persist in the effort to adapt milk to the babies' digestion.

One of the practical points which has to be kept in mind is that the child requires a certain amount of food for its nutrition and growth. If less milk is taken than will satisfy these needs the baby will remain stationary, or will lose in weight. If more is taken then the child will suffer from the results of over feeding. It will at first gain very rapidly, then its weight will come to a stand still and then the child will begin to fail. The child will suffer from lack of appetite, then vomiting and diarrhoea with restlessness at night, great nervous irritability, eczema, and other skin diseases. We can calculate very exactly the value of any food in terms of heat units or calories. Each baby requires so many calories per diem depending upon its weight. The food can be varied in its proportions of proteids, fat, and sugar to meet this requirement according to the digestive capacity of the child. But in the great majority of cases such exact calculation is not necessary. Practically we should feed for each ten pounds of weight one pound of food, which is the equivalent of one pint of milk. A child weighing twenty pounds should take the equivalent of one quart of milk a day. Bearing this in mind, there is not much danger of over feeding the child, unless the milk is very rich in cream. We have gradually drifted away from the high fat percentages which were formerly so commonly used because longer experience has shown that the fat of cow's milk will not be tolerated in such percentages as in mother's milk. So that where three and four per cent. were fairly common in the past, it will not average so high in general practice now. The upper half of a quart of milk upon which the cream has risen will contain the fat in the proportion of two to one of proteid. Using this portion and diluting according to the age and weight of the child will give a mixture which will agree with most children without trouble.

If twenty ounces are to be made up then

we may take five ounces of this top milk, one ounce of lime water, one ounce of sugar of milk and water to make twenty ounces. To get the five ounces of top milk, remember to take the top half of a quart of milk, mix thoroughly and then take the five ounces from that. It is well also to add a pinch of salt to each bottle. This will give a percentage of fat 1.75, sugar 6.00, and proteids .87. If this agrees with the baby, the quantity of the milk can be gradually increased according to the indications. Briefly, these are as follows: Too much proteid causes colic, restlessness, foul stools, etc.

Too little proteid does not satisfy the baby and it will get hungry before the proper interval has elapsed, it fails to grow and its flesh is soft and flabby.

Too much fat causes loose stools of a greenish yellow color, soft, not uniform, and sometimes acid. Eczema of the face, nervousness, and poor sleeping.

Too little fat produces dryish stools, failure to gain in weight.

The intervals between feeding are almost as important as the character of the mixture given. A baby should never be fed at less than two hour intervals, and if one will read the recent German studies the explanation becomes easy. When milk is taken into the stomach, it starts the flow of gastric juice, which besides the rennet contains pepsin and hydrochloric acid. Now the pepsin will not act upon the casein until there is free hydrochloric acid. The acid is taken up by the proteid in the conversion of the proteid into acid albumin. The casein of mother's milk will be saturated very quickly by the acid and then proteolysis is soon and easily effected, but the casein of cows' milk occludes a greater proportion of acid and therefore it requires a much longer time for a sufficient quantity of acid to be secreted to furnish a free acid so that peptonization can proceed. It is also known that the pylorus relaxes to allow the chyme to pass into the duodenum only when the gastric contents have reached a certain degree of acidity. In the case of cow's milk this requires a much longer time as just explained and therefore the intervals between nursings should be made nearer three hours than two. Otherwise, the milk which is being swallowed is meeting in the stomach with the undigested residue of the previous nursing. In this way, a vicious circle is established, which is exceedingly injurious to the infant. An excess of fat is particularly apt to delay motility and increase the acidity of the stomach.

There are a great number of other interesting problems which ought to be considered, such as the difference between the curds due

to rennet or to acid or to rennet and acid, the relation between the gastric and the intestinal digestion, the effects of the inorganic acid in activating the intestinal juice and thereby increasing the enterokinase with its intimate relationship to the enzymes of the pancreatic secretion. But I have not the time nor you the patience to go so profoundly into our subject. I only hope that I have clarified a small portion of the subject, which is of perennial interest to all who are especially interested in babies, who feel that it will require many years of patient investigation before all the mysteries of the subject will be cleared up.

PRESIDENT'S ADDRESS, SOUTHWEST
KENTUCKY MEDICAL ASSOCIATION,
MAY 10, 1910.

BY WM. L. MOSBY, BARDWELL.

I should feel ungrateful indeed were I not to express to you as best my vocabulary will permit my deep appreciation of the unmerited honor you have conferred upon me by elevating me to the highest place within the ranks of our profession, and when we reflect to consider the splendid achievements of this honored Association and the long list of distinguished (and many sainted) predecessors, Drs. Thompson, Maxwell, Desmukes, Rivers, Beeler, Brooks, Richmond, Hoeker, Brothers, Murrell Boyd, Stewart, Reddick, Coleman, Juett, etc., etc., and many others no less illustrious we are filled with pride and breathe a new inspiration for the continued success and prosperity of this time honored institution.

Any success that may have attended our efforts we assure you are due to your faithful co-operation and the united energies of an active, harmonious, organized profession for which we should feel profoundly thankful.

While we may selfishly congratulate ourselves on the comparative organization and splendid work being done by our Auxiliary Association and the County Societies constituting the unit or basis of medical organization yet we might well pause to make the inquiry, are we doing our duty along the line of Medical education and organization? Are our County and District societies accepting the full measure of responsibility and reaping with our people the full benefits of medical organization?

We submit a brief statement of the membership of the counties composing this Councilor's District. First, which is not exactly the boundaries for this association, we have an aggregate of over 370 physicians and only

201 members of the County and State societies, leaving without organization 145, a small percent., of which are not eligible to membership. We are proud of the showing of some 360 members of this progressive association and invite every qualified practitioner of medicine to come in and labor with us for the common good of our profession and our people.

The slogan in medical progress is organization which is so essential to education through the "rank and file" of our profession, indeed it is the foundation upon which the superstructure of medical education and professional unity depends. A quarter of a century ago only a few progressive (prosperous) doctors of our acquaintance would attend the sessions of the American Medical Association I remember Drs. Beeler, Richmond, Brooks and Desmukes possibly would attend this and our State Association, but the great army of medical workers were either too poor or too indifferent to accept the benefits of primitive educational advantages offered by these grand institutions.

We contemplate with pride the wonderful scientific achievements of our noble profession during this period and refer with unselfish pleasure to the increasingly rapid strides in all the departments of medicine and surgery, far exceeding any previous epoch in our history. This unprecedented progress in scientific medicine is due to organized efforts, affording opportunity for original research and scientific investigation by competent men who are willing to sacrifice even life for the good of their profession and the love for humanity. It is with sorrow, that we recall the loss of some of our noblest characters, sacrificed for the public good without suitable public or even private recognition. These medical philanthropists gave their lives without prospect of reward or remuneration for the amelioration of posterity, conserving not only life itself but private and public financial advancement so essential to modern development and progress. Scientific achievements have so occupied the minds of medical practitioners that only in the last few years have we been permitted to consider the material things pertaining to our progressive profession. We are at last looking to improved business relations with the public, and with patient, more congenial and helpful relations with our fellow practitioner, mutually helpful and protective, extending its benefits to colleague and clientele alike.

To-day we promptly challenge the obsolete term, "my competitor" or "opponent" and gladly accept the more friendly designation, "colleague" or "associate"; even the layman's expression of "neighbor" is more

euphonious to the ethical ear and meets approval.

We cannot too strongly condemn the antiquated practice of some "rut riding" hobbyist of abiding on practice in pecuniary concessions and the recital of wonderful cures wrought (in his mind) instead of the high ethical considerations and higher professional attainments and a superior order of equipment with latest and best utilities for the benefit of suffering humanity.

Advertising in medicine has been relegated, in person, in practice or in print, only as the skillful management of the sick and injured advertise our merits as followers of the Esculapian art.

We have been burdened with an excess of medical colleges of an inferior quality, small towns and cities without facilities for clinical and practical teaching of medicine have built up schools, owned and operated by stockholders, run for gain or profit, revenue only, many times medical men accepting positions as teachers for the honor of being called "professor" and having his name in a college catalogue, no attention being given to educational advantages to students, accepting matriculants with money but without sufficient preliminary education to comprehend the extensive and complex subjects embraced in the full curriculum of a modern medical college.

It is a pleasure to welcome the disposition to reduce the greatly excessive number of legalized diploma mills by consolidating one or more into one better school in a number of better cities, thereby laying the foundation for a broader and higher education for the future graduate. These conditions have been brought about by the work of the Committee on Medical Education of the American Medical Association and the various State Associations co-operating with the Boards of Health carrying out the plans of education so inseparable from organization. In our local societies and post-graduate clubs, our physicians meet together, become better acquainted through the medium of medical organization, discuss our cases, discuss ethics, and discuss conditions that tend to improve patient and profession, thereby ameliorating our social and financial status by mutual co-operation.

We believe the establishment of hospitals in the smaller towns or cities where a sufficient support can be secured is a factor in cementing the friendship of the local profession in a community, that should be encouraged; it harmonizes influence, as we all recognize the value of having our associate assist us in surgical work, securing his moral and verbal support. Its power to develop the skill of attendants is well recognized, afford-

ing additional opportunities for investigation and laboratory research.

The progress made in scientific medicine in our own State is indeed gratifying. Only a few years ago we were satisfied with an annual publication of one small volume as the mouthpiece of State Association, to be stored away in the archives of the doctor's office as a relic of Association connection, but to-day we are supplied with the best bi-monthly JOURNAL published, our members receiving the transactions of the counties, the Jefferson County edition and State Association, all for a nominal membership fee in the parent association.

Our officials entrusted with the publication of this splendid official organ are entitled to our highest commendation and approval.

The Medical Defense branch of our State Association (various Associations) is a step well taken and should be utilized by every member of this auxiliary society, it brings prophylaxis and protection in one capsule and at a minimum cost.

It is a well recognized fact no mal-practice suit was ever thought of without some so-called doctor being at the bottom of it. A better feeling among doctors, by being members of the same societies, being better acquainted by frequently meeting together, possessing a common friend to defend the honest practitioner, has already borne fruit in our own State and promises to practically end litigation of this character. Four practitioners this year threatened with suits, have been protected by this branch of our State Association.

Medical legislation is receiving the attention of State and National law makers, the efforts of our National and Auxiliary Committee under the able leadership and direction of Dr. C. A. L. Reed, of Ohio, is crystalizing and promises to bear fruit in the near future.

The people and profession of our State for felicitation for the enactment of laws by our last Legislature looking to the advancement of the work of our State Board of Health that has so long been embarrassed by an insufficient appropriation to do efficient work and give necessary protection to our people. We at last have an allowance of \$30,000 to further the work of public health in Kentucky and we bespeak for it great benefit to our people.

Senate Bill 26 establishing a bureau of Vital Statistics also passed, providing for the reporting of births, deaths, etc., and H. B. 108, providing for the punishment of any one guilty of producing an abortion on any pregnant woman and further providing that the woman shall be a competent witness in

any prosecution and that she shall not be deemed an accomplice by so testifying. This bill is now a law, but the appropriation bill is not available till 1911.

Our legislative committees and legislators deserve our sincerest thanks for this deserving step forward in legislative health enactments.

In the U. S. Senate Mr. Owen of Oklahoma has presented a resolution asking for a department of Public Health. This would be to the credit and of the greatest benefit to our nation had a partial recognition of the part scientific medicine has been to the advancement of civilization and the conservation of life, prosperity and happiness.

This resolution provides for the centralization of all the scattered bureaus as now exists into one comprehensive department, to be known as the Department of Public Health. As it now is the Secretary of the Navy is intrusted with matters of sanitation, prophylaxis, quarantine, etc., and food inspection is under the supervision of the Secretary of the Department of Agriculture and the Marine Hospital service attached to the Secretary of the Navy, which has rendered valuable service in quarantine, inspection and sanitary work during invasion of epidemics. This Department of Public Health would be of inestimable value to our people in the supervision and conservation of the healthfulness of our citizens, which is of vast more importance than the conservation of our natural resources at present attracting so much attention. The great achievement of science in the discovery of the true means of transmission of yellow fever and malarial fever has practically succeeded in eliminating the former from our country and made the management or prevention of the latter comparatively easy and is the subject of frequent comment. Typhoid fever, heretofore claiming such an enormous toll of our young life just as it blossoms into useful citizenship is being reduced and we believe will become as rare as smallpox under the administration of a well directed Department of Public Health. The census Bulletin, which estimates that from 100,000 to 200,000 children under five years old die annually in this country from preventable disease should arouse medical and philanthropic associations to renewed efforts to prevent this murderous sacrifice. Nathan Straus, the great New York merchant and philanthropist, has spent a fortune to provide for the children of his city, so reducing the death rate that it is estimated that some 200,000 children under five years of age owe their lives to this great human benefactor.

The annual report of the Chief of the San-

itary Department of the Philippine Islands for 1908 declares that the deaths from smallpox in seven provinces had averaged 6,000 annually, some 25,000 or 30,000 cases occurring annually under the Spanish control and that during the twelve months following the introduction of vaccination by our Government into these provinces not a single death occurred. A similar observation in Porto Rico emphasizes this prophylactic fact.

In the U. S. the death rate is about 16.1 persons to the one thousand people and in the Australian States only 10.6, and New Zealand as low as 9.3. This would indicate an annual loss of some 500,000 possibly, as our country is not less healthful than either of these, the lesser mortality being due to improved and effective national hygienic conditions. Colonel Gorgas has the distinction of giving a death rate of only 10.64 in Canal Zone, 1909, thereby demonstrating to the world what modern sanitation can do even in a tropical country like this to prevent disease and reduce the mortality below our otherwise great country.

It is estimated that 600,000 people die annually in this country from preventable diseases and that some three millions are made idle by illness with a consequent economic loss of two and half billions annually from these causes alone.

Dr. W. A. Evans, Health Commissioner of the city of Chicago, asserts that there are some 600,000 cases of tuberculosis in the U. S., and that one billion dollars are being lost annually from this "great white plague" alone. Many thousand of these "ubiquitous consumptives" go annually to the torrid Southwest seeking to regain their lost health and more than 60% of these are in such indigent circumstances as to be unable to provide the necessities of life and are hastened to a premature grave by such untimely visitations. Scientist and clinician alike agree that tuberculosis is a preventable and curable disease and yet very little has been done to teach the poor sufferer how to care for himself, to live and to protect the well.

Another question of more than passing moment is the "venereal peril," the protean forms of which, gonorrhea and syphilis, are causing suffering in many thousands of innocent subjects, the baneful influences of which are remote as well as immediate. It has been said that civilization and syphilization is largely responsible for our insane asylums; if true, shamefully so.

We are told by abdominal surgeons that over one-half of the pelvic operations in women are made necessary by the little sinner—the gonnoeoeus—and ophthalmologists agree that practically all cases of congenital

blindness are due to its unfortunate migration. Even the hymeneal altar does not escape the lurking of these deceptive germs that bring suffering and misery where pleasure and happiness ought to dwell. In the Dakotas and in Washington laws are in force that no marriage license can be issued unless the contracting parties can procure a satisfactory physician's certificate and the American Institute of Homeopathy at its last meeting amended its code of ethics releasing physicians from "professional secrecy" regarding the private affairs of patients or their families "where such secrecy might result in the injury or infection of innocent persons about to contract marriage."

The physician usually knows the physical fitness of the son or the daughter for marriage relations; also equally well does he understand the moral qualifications and ethical considerations and legal restraints should not prevent imparting this information to proper authorities when occasion demands. Neither law nor ethics should place professionalism above humanism.

In a few States only has there been a well directed effort put forward to suppress criminals and those who are mentally and physically incompetent and undesirable by sterilization, occasional sporadic cases of State's legislation exists and we would urge the complete operation, for the vicians of this class exhibiting the brutal tendency with lesser mental powers.

Pellagra and hookworm have been added to our long list of preventable diseases and bring with them new responsibilities for their proper prophylaxis and treatment. The commission consisting of Drs. Welch, Flexnor and Stiles to investigate and take steps to eradicate hookworm from our country should be encouraged and co-operated with in every possible way.

Our profession has before it many intricate problems of intense interest that must be met and solved.

Prophylaxis and the cure of disease must receive attention, scientific investigation and research should not be neglected, but medical organization, including education and legislation, require to be kept in the forefront of advancement that the fullest blessings of modern civilization may come to our race. Ignorance, vice and suffering go hand in hand and the light of knowledge will remove its blighting, deforming taint.

Scientific medicine has no discoveries to exploit or secrets to withhold from the envious public, no desire to hide behind the halo of mystery or invade the realm of metaphysics, nor do we lay claims to perfection as to methods and knowledge, but seek to co-

operate with all active progressive allied organizations in the attainment of the ideal.

CEREBRO-SPINAL MENINGITIS.*

BY S. M. HOPKINS, DEMOSSVILLE.

Holt and Osler each define cerebro-spinal meningitis as an infectious disease, occurring epidemically and sporadically, *not* infectious, and is caused by the diplococcus intracellularis. Foreheimer says: "Granted that the disease is caused by a bacterium, whether it is the diplococcus intracellularis, the micrococcus lanceolatus, or any other lower form of life, the disease is transferred both directly and indirectly from man to man, and is therefore contagious."

The first account we have of the disease was in 1805; from that year to 1837 the disease was prevalent in the U. S.; from 1837 to 1850 it prevailed in France; from 1854 to 1874 there were outbreaks in Europe and America. Since 1875 the disease has broken out in many regions. In New York City in 1905 1,000 died of the disease. Osler says it is rare to have more than one or two cases in a house and in a city epidemic the cases are distributed very irregularly. I remember that was the case in the epidemic they had some two or three years since in Cincinnati.

Morbid Anatomy.—In the quickly fatal cases there may be found little changes, the brain and cord shows congestion. In the more chronic cases there is thickening of the meninges. The ventricles are dilated and contain a turbid fluid or pus. The brain substance is softer than normal, and is pinkish in color. The cranial nerves, especially the second, fifth, seventh and eighth are involved. The cord is always involved with the brain. The exudate is more pronounced on posterior surface, and as a rule, in the dorsal and lumbar regions than in cervical portion. Complications have their pathology.

Symptoms.—Many different classifications are made by different writers, but they might be grouped in three classes.

1. Common form.—Most of the epidemic and sporadic cases are of this form. The incubative period is not known. The disease usually sets in suddenly. There may be prodromal symptoms for a day or so, consisting of headache, pain in the back, loss of appetite, etc. Most commonly the onset is with chill, vomiting and headache. The temperature rises from 101 to 103. Pulse full and strong. An early symptom is stiffness of muscles of neck, photophobia and sensitiveness to noises. There is orthotonos or opisthotonos. The pain in the back and limbs

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gets very severe. The patient often lies with the body stiff and head drawn back between the shoulder blades. Strabismus is common symptom, as is also paralysis of muscles of the eye and face. Delirium occurs at onset, then stupor and as effusion increases coma sets in. The temperature is irregular. The pulse becomes slower. The respirations are sighing and irregular. There may be herpes, also petechial rash, which gives it the name spotted fever. The rash is absent oftener than present.

2. Malignant form.—This type may appear either epidemically or sporadically. It begins with much the same symptoms only in worse form. Stille reports a case that died after illness of ten hours; Gordon one that died in five hours.

3. Abortive Form.—The attack sets in with great severity, but in a day or two the symptoms subside and convalescence is rapid. Some authors also describe an intermittent and a chronic form (secondary form and causes).

The complications and sequelae are many. Pneumonia, pleurisy and pericarditis are common complications. As sequelae there may be headaches that last for months, mental feebleness, paralysis, convulsions, deafness and chronic eye troubles.

Diagnosis.—In making diagnosis the diseases that most often give us trouble is pneumonia and typhoid. I recall a case of typhoid fever in which I was in doubt between typhoid fever and a meningitis for some days. Pneumonia is recognized by accelerated breathing and physical signs. Meningitis is often secondary to some other disease; then we may have trouble in making diagnosis. We are more likely to call some other disease meningitis than to call meningitis something else. Kernig sign.—If meningitis is present, and the thigh is flexed at right angles to abdomen, the leg cannot be extended on thigh on account of contraction of flexors. Lumbar puncture and examination of fluid would likely make diagnosis.

Specific Treatment.—Forchheimer reports a recovery of ten out of fifteen cases by use of magnesium crede. Dazio reports nine cases treated with hypodermic injections of corrosive sublimate 1-13 to 1-6 grs. daily; all recovered. Lumbar puncture is recommended as both palliative and curative. In the Cincinnati epidemic nearly all the cases that were treated early by lumbar puncture, withdrawal of about one-half of spinal fluid, and injection of Flexner serum recovered. With cases treated late it was not very successful.

Symptomatic Treatment.—To allay inflammation an ice cap to head and ice bag to spine is indicated. For pain give morphia

hypodermically; for nervousness give bromides, chloral, etc. Watch bladder, may have to use catheter. Keep bowels open. Give alcohol and digitalis for weak heart, but not strychnine.

INFLUENZA OR LAGRIPE.*

BY CHAS. KENDALL, MORGAN, KY.

The disease influenza or lagrippe, as you choose to call it, is among the most widely known of the epidemic diseases and possibly causes the most deaths of (directly or indirectly) any of them. I know of no disease that is harder to control than influenza, taking complications and sequelae in consideration, and as the subject is long and my time limited I will only give you a brief history of the disease and proceed with treatment.

At various times in the past great epidemics, according to Hare, have broken out and raged over the entire world, and have been followed by long periods of immunity. Thus when the great epidemic of 1889 occurred only a few doctors and they of advanced years had ever seen a case, for the previous epidemic occurred in 1847-48.

Epidemics have occurred during the last century in 1830-33, 1836-37, in 1847-48, 1888-90. In 1889 the disease began in remote parts of Russia; in October it reached Moscow in November. Ten weeks later it got to Berlin, a month later to London, and soon after to New York and Philadelphia and thence it spread all over the continent of North America; within the next few months the whole civilized world was affected by it.

Since the last outbreak the disease has been epidemic but it is an attenuated form of the affection. An individual locality is rarely affected with an epidemic for more than two months, but sporadic outbreaks occur for a longer period afterwards.

Treatment.—Above all things rest in bed must be advised. This is as true of the patient who is robust as one more feeble and in the mild as well as severe attacks. A robust man who fails to rest almost always suffers from a severe attack or sequelae, such as cardiac disorders and giddiness, which may invalidate him for weeks. Aside from rest in bed little medicine is needed except for the purpose of relieving symptoms which are troublesome. For the relief of the pain in the limbs and back the coal tar products have been employed by the ton. While they give relief they are harmful if the doses are large and often fail if used in moderate amounts. They tend to increase nervous circulatory depression and to decrease the ability of the patient to resist the affection from

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which he is suffering and the possible secondary infection which may occur. If the patient will rest they may be used moderately. If he will not rest they should not be used at all, for they not only do harm directly, but they diminish discomfort and encourage him to remain out of bed. A very useful drug for the relief of the pain and aching in the back and limbs is salicin in 5 grain doses every five hours. Some prefer to use the drug combined with quinine in 2 grain doses and feel it is a specific in the cure of lagrippe. Should the pain in the back be intense it may be treated with hot stupes or compresses or with soothing liniments. I get but very little good from them. Dover's powder given often enough to relieve pain I find a very grateful remedy. 2 to 10 grains. Headache may be relieved by (if due to congestion) the use of cold ice bags, etc., or by 1 to 2 grains caffeine combined with bromide of soda or potash every few hours. Hot foot baths also give relief. As in all infectious maladies the eliminative organs should be kept open or active. The bowels should be open by a few doses of calomel, followed by salines, salts or silitz powder or citrate of magnesium.

For the purpose of keeping the kidneys active 5 grains of citrate of potassium or bicarbonate of potassium may be given every few hours with copious draughts of water if the urine is acid, or the same amount of benzoate of ammonia if the urine is alkaline; the latter drug is better given in capsule and possesses the advantage of acting favorably on the respiratory mucous membrane and upon muscular pain. A hot compress applied to the loins will often promote renal secretions when it seems scanty.

Dryness and soreness of the mucous membrane of the respiratory tract may be relieved by chloride ammonia 5 grains three or four times a day, or combined with eocodeine or morphine. Persistent cough of convalescence oils and sandalwood in 5 grain dose four times a day is useful. circulatory stimulants are not to be used unless there is distinct evidence for their use. If patient is accustomed to their use then good whisky or brandy preferably old, for the acute circulatory failure Hoffman's anodyne or aromatic spirits ammonia are the choice, also strychnine, but abused except as a tonic.

Prophylaxis.—Disinfectives and keeping healthy people out of the room.

ACUTE INFANTILE PARALYSIS.*

By W. A. McKINNEY, FAIRMOUTH.

Acute infantile paralysis or anterior poliomyelitis, is a focal inflammatory process of the anterior horns of the spinal cord. It is an acute disease of infancy and childhood, and occurs both sporadically and epidemically. In order to better understand the disease it is well enough to study the anatomical arrangement of the cells, and blood supply of the parts affected. The spinal motor cells lie in spindle shaped bundles in the anterior horns of the spinal cord. Chiefly located in the cervical and lumbar enlargements the greatest extent of these groups is the length of the spine. One group frequently reaches through three or four spinal segments, while it overlaps other groups above and below it. The relation to other cells of other groups is very complex. One center will send impulses to two or more muscles. And again one muscle will receive impulses from more than one center. This complicated arrangement becomes of utmost importance in regard to treatment. The blood supply is derived chiefly from one anterior and two posterior spinal arteries. The anterior runs the length of the cord in the anterior fissure, and is the chief supply of the anterior horn. It is with the distribution of the blood supply of the anterior spinal artery that we are chiefly concerned. From this branch on each side are two lateral horizontal branches which enter the cord at different levels, about 200 in number. These are the central or sulco comisural spinal arteries. Entering the anterior horn they terminate in a network, after sub-dividing into various branches. Each of these central arteries has ascending and descending branches. These branches are terminal arteries and do not anastomose with each other. The terminal twigs of the central arteries do not supply each an especial group of motor cells in the anterior horns, but are distributed without reference to cell groups, so that each cell group gets its blood supply from several branches of one central artery. The irregular distribution of destructive foci in anterior poliomyelitis is thus explained. The fact that the motor cells run in the length of the cord, and the blood supply is mainly horizontal, unless the lesion is very extensive some cells escape destruction, and the utilization of such remaining cells in partly destroyed groups become of great importance in treatment.

Etiology.—The cause of the disease is still unknown, but it is generally supposed to be

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of an acute mycotic nature. Simon Flexnor and Paul Lewis says: "We failed utterly to discover bacteria either in film or cultures that could account for the disease. We have made a painstaking study of film preparations and sections prepared from the brain and spinal cord prepared and stained in various ways and never found either bacterial or other protozoal parasites." They took the brain and spinal cord and suspended it in glycerine and afterwards injected some of this substance into the brain of a monkey and produced the disease in from seven to ten days. This has been carried to the sixth generation of the virus. Thus it appears that the infecting agent belongs to the minute filterable viruses that have not been found with the microscope. This virus will also produce the disease if injected subcutaneously. Traumatism has been found so often in connection with these cases that it is recognized as a probable cause. Whether or not the sporadic and epidemic types of the disease are caused by the same organism or toxin they resemble each other in some respects and differ in others. The disease occurs in all parts of the world in both of its types and affects all nationalities alike. No less than 44 epidemics have been chronicled. While the severity and fatality of the disease fluctuates widely its affects are always so destructive and disastrous as to make it of the highest medical and social importance. According to the statistics of all epidemics it occurs most often in the summer and fall, 80% of cases. Intense heat and humidity of the atmosphere seems to be a predisposing cause, and the fact that the disease selects by preference children in the first dentition and prevails in the summer offers a close analogy to the gastrointestinal diseases, and suggests a possible source of infection from the intestinal tract. Possibly from some bacilli in milk. It may be that such a bacillus liberates a toxin which is the harmful agent and disappears.

Pathology.—The lesion invariably occurs in the cervical or lumbar enlargement of the cord. Though usually situated in the anterior horn it may extend to the posterior horn. In many early cases the histological changes is acute inflammatory, and owing to the consistence of the surrounding tissue is associated with more or less hemorrhage. This hemorrhage brings about a break in the motor connection with the ganglion cells of the anterior horn, hence the paralysis. Degeneration changes in the nerve cells and muscles quickly follows, which naturally occurs as a result of the paralysis.

Symptoms.—The disease usually comes on in a child after a day of play. May begin by vomiting and the patient is fretful and rest-

less and is found to have fever. Temperature from 101-104. At other times it may begin with a diarrhoea. Angina is frequently found to be present. Pain in the back and limbs are constant. In about 10% of cases are found somnolence, stupor, unconsciousness, rigidity and retraction of the head, insomnia, restlessness, muscular twitching, screaming and sometimes convulsions. The paralysis is usually not discovered for three or four days, because the child is too sore to move. Sometimes there is urinary incontinence or retention. As a rule the paralysis is at first widespread, it is motor, and may have reached its height before being noticed. The muscles soon become flaccid, reflexes diminished and the temperature of the part is reduced, and there is pain and tenderness in the muscles with hyperaesthesia of the skin. The temperature may last four or five days, or it may subside in twenty-four hours, or it may continue for eight or ten days. The improvement of the muscular power continues months after, which in cases not treated the condition remains stationary.

In those cases in which treatment is still kept up, the improvement continues to the extent of the remaining healthy multipolar cells. The child's condition is unchanged save for the effects of the nerve cell degeneration and muscular atrophy, which are contractions in certain groups of muscles with spinal curvature, the various forms of talipes, flail joint and other deformities, and a partial arrest in growth and development of the affected limbs. Anterior poliomyelitis may be seen in various degrees of severity from the abortive type to those in which there is evidence of bulbar involvement and those showing cranial nerve symptoms.

Diagnosis.—The diagnosis of anterior poliomyelitis should not be made until paralysis has appeared. The most pronounced symptoms and those to be depended upon for diagnosis are sudden paralysis complete from the beginning. Its involvement of one or more limbs with spontaneous improvement in some and permanent paralysis in certain groups, loss of tendon reflex, rapid atrophy, cold flaccid limbs, absence of improvement of sensation and presence of the reaction of degeneration. At first the disease may resemble an acute indigestion, or the stage of invasion of one of the acute exanthemata and from the pain may arouse a suspicion of rheumatism. We may not be able to make out the diagnosis where we have convulsions and unconsciousness, as these symptoms often appear in other diseases, but when we find the paralysis, we then are sure that we have an anterior poliomyelitis. It may be mistaken for multiple neuritis, and the muscular weakness

of rachitis sometimes resembles this disease. The pseudo paralysis of scurvy may be confounded with it, and cerebral paralysis are to be differentiated.

Prognosis.—The sporadic and epidemic types of the disease again differs. The outcome of the sporadic as to life are very favorable, but unfavorable as to complete recovery from paralysis. The mortality in the epidemic variety varies greatly from 6 to 13%. In the fatal cases death usually occurs between four and ten days and is usually caused by the paralysis extending to the respiratory muscles, or heart failure. We should always consider the prognosis serious while the disease is advancing or while the paralysis is extending. Should the child survive the eighth or tenth day, the outcome will likely be favorable as to life. The mortality of the epidemic type is much greater than the sporadic. We find 25% of the cases there is complete recovery, while complete recoveries are not often seen in sporadic cases.

Treatment.—In the acute stage, empty the gastro intestinal tract with a mercurial purge; to induce free perspiration by means of a hot bath, keep the patient in a prone or lateral position; use counter irritation by means of a dry cups mustard. The use of an ice bag or the use of leeches. For the convulsions a warm bath should be given or if necessary an enema of bromide of sodium 5 to 15 grains, and chloral hydrate 1-5 grains in one ounce of warm water. For the pain and restlessness antipyrin or phenacetin may be given. Dover's powder may also be given in connection with the coal tar preparations. Absolute rest is essential and the nutrition should be chiefly milk. Ergot is indicated on theoretical grounds, but the effect is doubtful. Iodide of potassium has been advocated, as has quinine. The salicylates have been recommended. Urotropin is recommended by some for the reason formaldehyde has been found in the cerebro-spinal fluid. The affected limbs should be enveloped in cotton batting and should be protected from any strain. The feet should be kept at right angles with the legs, the knees in slight flexion or very nearly straight and the thighs on a line with the trunk. The ligaments and capsules of the joint should be protected from strain. The object of treatment early is to prevent rather than correct deformity. The child should not be allowed to put the limbs in false positions, which might result in the limb becoming fixed and resulting in deformity. After the period of inflammation has passed on in about two weeks we may begin massage, or other means. No treatment acting as excitants to the muscles or nerve cells, such as massage electricity or vibro massage

should be instituted until we are satisfied all inflammation is past. As to the after treatment such as tendon or muscle grafting to correct deformities, I will leave for the surgical side of the question. I will say surgery offers almost unlimited possibilities in these cases.

EFFECTS OF ALCOHOL FROM A SCIENTIFIC STANDPOINT.

BY P. LIGON, HENDERSON.

In this age of scientific progress we are confronted by many problems, the proper solution of which requires most careful thought and painstaking investigation. There is not one before us to-day that is viewed with as much concern as the alcohol problem, not even the problem of tuberculosis. From a moral, economic, sociologic, scientific, medical and public health point of view, the alcohol problem is one of the most vitally important unsolved problems of the world to-day.

Every advance in the scientific study of disease and degeneration points unmistakably to alcohol as one of the most potent agents in the diseases and destruction of the human race. Scientific studies of causes of accidents, injuries, diseases, and the great forces of heredity, bring out this same fact in greater prominence, that alcohol in some form is the most influential factor of these losses. These facts have created a sense of alarm in the public mind which is materializing in various ways until the problem is assuming a prominence that is significant of the deep concern with which it is viewed. In the solution of this problem the medical profession must take a part. Public opinion demands, and has a right to demand, that the action and influence of alcohol be determined and settled by the medical profession, and that we teach the people the truth fully, conscientiously and fearlessly. When physicians take hold of the question in the same spirit they have shown concerning yellow fever, smallpox, malaria, tuberculosis, instead of treating it as a moral question and leaving it to clergymen, temperance workers and reformers, we may expect better results. More may be accomplished by teaching the people the truth in regard to the fatal effects of alcohol upon the mental and physical inefficiency than by expiating on the moral wickedness of drinking, and I would not undervalue the latter.

In their attempts to stamp out this evil fortunately the question is receiving new attention by many of the medical profession who have the courage of their convictions and who see with clear vision and who will not be deterred by sneers or criticisms. Bearing on

this point I can do no better than quote the words of Prof. W. T. Sedgwick in his annual address on medicine at Yale University last year, in speaking of the alcohol problem, when he said that when one considers the relations of alcoholic indulgence to diseases, the numerous and important ailments of which it is the direct cause, to say nothing of the indirect influence on human misery and degeneracy, one can hardly avoid realizing that it stands almost, if not altogether in the front of the enemies to be combated in the battle for health, and that there had been too much neglect by the medical profession of this matter in the past, and that this neglect was all the more reason why they should do their full duty now and in the future. As evidence that some members of the medical profession are taking part in the solution of this problem I call attention to the great international Anti-Alcoholic Congress, which met in London last year. Fourteen hundred delegates met together for the discussion of the question in its different phases. Sixty of these delegates were from the different governments of the world. This Congress assumed a national character in 1907, and by invitation from the British government was held in London in 1909. The Duke of Connaught was honorary president, and Lord Chief Justice of England presided at one of the receptions and made a very strong address on the necessity of studying the alcoholic problem, asserting that in his experience as judge 90 per cent. of all the crimes of the country were dependent upon alcohol. Forty papers bearing on the different phases of the alcohol problem were read and discussed. The success of this meeting, and its contributions to both the sociological and medical sides of the subject created a great sensation in Europe. It was very evident that the subject of alcohol and the various problems and public health questions which concentrate about its use, have assumed a national importance. Apparently no other subject, not even tuberculosis, has so vital an interest to all branches of medicine and reform, and the national recognition of this fact is the beginning of a new epoch in the study of the subject. The dominant idea brought out at this meeting was that alcohol is a depressant and narcotic, and should never be considered as a stimulant or tonic, and that as a beverage it has no place whatever. One subject that attracted unusual attention was that of teaching the dangers of alcohol, in the public schools. This brought out a very strong array of figures and discussions from the eminent physicians on the value of teaching its dangers in the common schools. Another incident occurred some months ago

which is equally significant showing the interest physicians are taking in the study of the alcohol problem. It was the meeting of the American Society for the Study of Alcohol and Other Narcotics. It met in Washington, D. C., last fall. Twenty-one papers were read at this meeting. The character of these papers, and the interest which they excited attracted the attention of Congress and a resolution was passed making these papers a public document. This act is very significant, that the alcoholic question should be considered of such vital importance beyond any other reform movement of the day. It shows that the alcohol problem is rapidly becoming one of the great topics of the age.

One little incident in connection with that Congress at London deserves special mention, showing the ingenious methods to which the liquor interests will resort to carry their point. It is this: each member of this Congress received two bottles of Tokay wine with compliments, apparently, of the Hungarian Minister of Agriculture. In reality it came from the Wine Growers' Association and had a certificate from the minister that the product was pure. Accompanying this present was a very attractive booklet giving great prominence to the value of this wine and calling the doctor's attention to its medicinal power in disease. A circular letter protesting against this was issued, signed by Sir Victor Horsley, of England, as president, and more than fifty leading English and Continental physicians, denying that alcohol had any value and considering it an insult to be advised concerning the value of spirits or wines in any form. This letter urged members not to accept this present, and thus become a party to an iniquitous delusion which every scientific study and clinical experience had flatly contradicted. This created quite a stir, and the wine dealers tried to take advantage of it for advertising purposes by a canvass among the leading physicians to secure their indorsement. To their great astonishment nearly ever leading man refused to be interviewed or to commit himself to the endorsement of wine as a medicine. The incident created quite a ripple in some circles, but was unmistakable evidence that the doctors had taken up the alcohol problem and will soon be recognized as a teacher and leader.

Perhaps we may better appreciate the importance of this subject if we investigate its cost to the people of the United States for the past year. It cost more lives and more money than tuberculosis. The drink bill of the United States last year was near two billion dollars. This was more than the combined receipts and expenditures of the Government for the same period; more than was

spent for meat; more than the capital, surplus and net earnings of all the national banks in the United States. From statistical reports we find that from ten to twenty per cent. of all deaths are due directly to alcohol; 85 per cent. of all crime, 75 per cent. of the pauperism, 50 per cent. of the insanity of the United States are caused by alcohol. Sixty per cent. of the imbeciles and the epileptics are caused by the hereditary effects of alcohol; 40 per cent. of the diseases of the liver and kidneys is caused by alcohol. Alcohol caused more deaths the past four years than did the four years of the Civil War. We have in the United States at this time over three million hard drinkers, one hundred and twenty-five thousand of whom die annually. These have been taught and made to believe—perhaps willingly—that alcohol when taken as a beverage, especially in wine and beer, is a mild stimulant and pleasant tonic. For this condition the medical profession is in a measure responsible. For the indefinite past alcoholic preparations were believed to be, in the correct sense of the word, stimulants, although their narcotic effects were known. There is another agency which should share in the responsibility for this great host of drinkers. It is the patent medicine fraud. Take from these nostrums the narcotis and the trade would not last one year. Their deceptive influence is due directly to the narcotic which they contain, which in the large majority of instances is alcohol. The chronic sufferer is looking for relief. In these narcotic remedies he finds it. His or her physician, realizing the danger of habit-forming drugs, would not give them, and they fall an easy prey to the alluring inducements of the patent medicine vender, and they were started on the way to drug addiction and finally to inebriety. Thousands have gone this road innocently and unaware of its consequences. The marvelous progress which has been made in scientific medicine in the past few years, especially through the aid of the physiologic laboratory, has wrought a wonderful change in the views of many students of medicine respecting the value of alcohol in health and disease. Experiments upon both human beings and lower animals within the last few years have been greatly multiplied and the physiological effects have been fully determined. The testimony of science is daily refuting the idea that alcohol is a valuable medicine or can be taken in any quantity without harm. According to Anders, alcohol is a poison and not a food, essentially a drug and not a drink, and the effects of its habitual ingestion are to produce degeneration of nearly all of the bodily tissue, and that not only are large doses poisonous, but small doses also,

and that the so-called physiological effects of small doses are merely defensive efforts on the part of the tissue toward a recognized poison. Parlow, of St. Petersburg, has shown that alcohol when introduced into the stomach produce an abundant flow of mucus and also stimulates the formation of acid, but remains without action on the peptic glands. To this Tigel and Crittenden agree. Wood says that when this is repeated many times the final result is obliteration of the peptic and acid forming glands and chronic gastric catarrh, the result of the defensive hypertrophy of the mucous-forming glands.

Dr. B. C. Kristey, superintendent of the Hospital for Mental and Nervous Diseases, says that alcohol extracts the moisture of the five million little cells that supply the gastric juice to the stomach and destroys the protoplasm of the epithelial cells of the lining of the stomach, and in so doing the functions of this organ of digestion are also obliterated. Dr. J. H. Kellog, of Battle Creek Sanitarium, says that the habitual effects of alcohol upon the healthy stomach is to lessen its ability to form healthy gastric juice and that the use of alcohol even in smaller quantities than that contained in beer and light wine decidedly lessens the activity of normal gastric juice. Dr. Howard A. Kelly says of alcohol that it is non-efficient as a food, may be classed as a drug and poison, and has no rightful place in medicine. Upon the liver its tonic effects are shown in a very striking way by its influence in hindering the formation and accumulation of glycogen in this organ. It is claimed that the storage of glycogen in the liver is one of the most important means of defense against bacterial infection, and that any interference with this function lessens the resistance to infection. Glant's experiments show conclusively that alcohol hastens the disappearance of glycogen by disturbing the hepatic function, just as any other toxic agents do. By interfering with the function of the liver alcohol favors anti-intoxication. Dr. Reid Hunt, who is in charge of the experiment station laboratories, under Government auspices, at Washington, D. C., has shown by experiments that alcohol produces both an absolute and relative increase of putrefactive products in the urinary secretions, and suggests that cirrhosis of the liver is not due to the alcohol itself, but to products of intestinal putrefaction, the amount of which is greatly increased by alcohol. Dr. Hunt found throughout his extended and exhaustive research that very small doses of alcohol were followed by a marked decrease in the defense of the system against toxins. Dr. Boix, of Paris, confirms the views held by Dr. Hunt. Dr. W. A. Hall, of Chicago, says of

Dr. Hunt's experiments that his conclusions are final and his proof absolute. Recent investigation clearly disproves the old theory of alcohol being a heart stimulant. The supposed stimulant effect is due to irritation produced by alcohol on the nerve ending in the mucous lining of the stomach. Alcohol paralyzes the delicate nerves that supply the blood vessels, causing the vessels to dilate and thereby admit a larger supply to be carried to the surface and extremities of the body, causing the heart to do an extra amount of pumping in order to keep the vessels filled with blood. This extra work is deceptive, and led to the belief that the heart was stimulated, when in reality it was made weaker from overwork, and the depressing effect on the cardiac nerves.

The sympathetic nervous system is paralyzed by its narcotic influence. By the continued use of alcohol in moderate quantities, a hardening of the walls of the blood vessels results. This is due to the extraction of water from the walls of the arteries, and its toxic influence. This hardening is soon followed by thickening and lack of elasticity, and contractibility, which causes delayed blood current, stagnation and stasis of the circulation. With this condition in the brain we may on the slightest provocation have a rupture of a blood vessel, followed by a paralysis or apoplexy. These pathological conditions are caused by no other agencies except old age and alcohol drinking. Being a protoplasmic poison, alcohol has a special affinity for the delicate cells of the brain and nerves, with which function it interferes, even at a very early stage, and finally causes permanent gross alterations in the tissue. The great affinity alcohol has for the fluids of the tissue, and its well known power to extract water from the same, renders it very destructive to nerve and brain substance. Metchnikoff says that alcohol first sucks nerve elements dry and opens the way for their subsequent devourment. The brain and nerves being 80 per cent. of water renders them very susceptible to the influence of alcohol. It has been demonstrated by clinical observation that alcohol has been found pent up in small sacs on the brain in persons who have been chronic drinkers. Enough alcohol has been found in the brain of a dead toper to spoon out into a dish and set on fire. The effect of alcohol on the capacity for any quality of mental work is very marked. The conclusions of the British Association for the Advancement of Science was that alcohol, in the smallest amounts, is deleterious to the quality of mental work. Prof. Huxley says of alcohol as a stimulant to brain work that he would under

no circumstances give it to whip up a tired or sluggish brain.

The effects of alcohol are far more persistent than might be supposed. Furer tested this. He gave his subject two quarts of beer per day. No intoxicating effects were to be discovered by ordinary methods. The psychological tests, however, showed marked disturbance of all the reactions, diminished capacity to memorize, decreased faculty in adding, etc., not only on the day the beer was taken, but for as much as three days was the disturbance noted, although the subject himself felt as fresh and free from after-effects on the day following the taking of the beer.

Rudin found the effects of a single dose of alcohol to persist as regards some forms of mental disturbance, for from twelve to thirty-six hours or more. He also found that subjects differed greatly, and that in some the effects of a single dose of alcohol persisted for days. The experiments of Kurz, Smith and others show a piling up of the disturbing effects of alcohol when the dose was repeated for several days in succession. They estimate that after giving eighty grains per day to an individual for twelve days, the working capacity of that individual's mind is lessened by from 25 to 40 per cent. Smith found an impairment of the power to add, after twelve days, amounting to 40 per cent.; the power to memorize was reduced 70 per cent. The amount of alcohol used in these experiments is no more than the amount of alcohol contained in one to two quarts of beer or from one-half to one bottle of wine. Prof. Asehaufenburg, commenting on these experiments, points the obvious moral that the so-called moderate drinker, who consumes his bottle of wine each day with his dinner, who would doubtless declare that he is never under the influence of liquor—is in reality never actually sober from one week's end to another. Neither in bodily nor mental activity is he ever up to what should be his normal mental level.

One of the most alarming effects of alcohol is that of heredity. Dr. D. H. Krees says that the continued disturbance of the brain by alcohol leaves an indelible impression, and that these defects are transmitted from parent to children, and that brain degeneracy exists to some extent in every child born of alcohol-using parents. In the second generation the degeneracy becomes more manifest, while as a rule it remains for the third and fourth generation to reap the full results of alcoholism. Dr. Joffry says alcoholism begins with the father and strikes down some of the children and continues to the fourth and fifth generations. Dr. B. C. Krister says that parental intoxication tends to produce impul-

sive degenerates and moral imbeciles. It may not be recognized immediately, although in infancy it may show itself in convulsions, meningitis and other forms of nervous debilities. Many children of alcoholic parents show signs of mental deficiency and lack of moral control, while others exhibit idiocy, epilepsy and hysteria. In a single reformatory school in Berlin, hereditary taint due to parental alcoholism is shown in 67 per cent. of all pupils. Of the 55,000 school children examined in New York City in 1901 by Dr. MacNicholl, 58 per cent. were below the required standard, 17 per cent. being actual dullards, bordering on imbecility. The family history of 3,711 of the children was traced through three generations. Of the children of abstaining parents and abstaining grand parents, only 4 per cent. were dullards, whereas of the children of abstaining parents but drinking grand parents, 78 per cent. were dullards or feeble-minded. A very striking illustration of the force of heredity is reported by Mrs. M. J. Annable, of Brooklyn, N. Y. The record was kept of one woman, who was reared in the atmosphere of the saloon and the lowest form of immoralities. Her descendants were traced from 1827 to 1902. They numbered 800, seven hundred of whom were criminals, 342 were confirmed drunkards, 127 were immoral women, and 37 were murderers.

Another important phase of the alcohol problem is the fact that it renders the user more susceptible to infection, and this is especially true of tuberculosis. Major G. S. Crawford, of the British army, says that it is one of the strongest predisposing causes of tuberculosis. Prof. Metchnikoff recently demonstrated that alcohol, even in small doses, paralyzes the phagocytes and renders them incapable of protecting the body against microbial invasion. Dr. Reid Hunt has shown that even small doses increase susceptibility to infection and lowers the vitality of the offspring. Wright's observations show that the tuberculo-opsone index is definitely and positively lowered by alcohol. The international congress on tuberculosis which met in Paris in 1905 passed the following resolutions: That in view of the close relationship between alcoholism and tuberculosis, this congress emphasizes the importance of combining the fight against tuberculosis with the struggle against alcoholism. Prof. Adolphus Knopf in his article on tuberculosis, *Twentieth Century Practice*, 1900, says that alcoholism is one of the greatest direct and indirect causes that prepare the field for the tubercle bacilli is now generally conceded. Dr. C. A. Rosenwasser says that people are busy fighting tuberculosis but are forgetting that no seed can grow unless it lodges in appropriate soil, and

says that alcohol prepares the soil and renders it fertile, hence the fight against tuberculosis, to be successful, must at the same time be waged against alcoholism. Amat says that the excessive drinker becomes a preferred candidate for tuberculosis. Legrain, of Paris, says that with the removal of alcoholism the tuberculosis problem would be settled. He urges that the struggle against tuberculosis be abandoned and that the funds be directed against alcoholism. Capo declared before the Paris Congress on Tuberculosis in 1905 that alcoholism and tuberculosis form the worst possible combination and that every alcoholic is a candidate for tuberculosis. Dr. Crothers quite recently demonstrated in a study of 100 cases of alcoholism that it lowers the vitality and predisposes to tuberculosis.

This is but a faint picture imperfectly drawn of the evil effects of alcohol. Thus far has science tracked this serpent of the still, and has shown that as remedy for disease it has no place. If it has no rightful place in medicine, and if it is killing some hundred and twenty-five thousand of our citizens annually, it certainly becomes one of the greatest public health problems of the age. This is in keeping with the emphatic declaration of the Journal of the American Medical Association of last September, when it said that the medical profession as a body should stand for temperance as one great essential of public health, and the statement of Dr. George W. Webster, president of the State Board of Health of Illinois, that the prevention of alcoholism comes as much within the sphere of the action of the medical health office as tuberculosis or smallpox, and that the alcohol problem should be viewed as but a part of the large public health problem. Can we, as physicians, be true to the great principle of altruism for which the medical profession has been so justly noted if we fail to declare the facts concerning this death-dealing enemy of mankind. This great principle was foreshadowed when Cain imprudently asked: "Am I my brother's keeper?" and as result of this attitude we see him driven out crying, "My punishment is greater than I can bear." As physicians we are in a sense our brother's keeper in matters of public health. He who confesses that he is his brother's keeper must fight alcohol as the deadliest enemy of mankind, slowly but surely destroying our nation. A true altruist will indignantly reject as a beverage to be taken for pleasure that which can only be had at such an enormous percentage in the destruction of life and morals. He has no right to introduce into his household or use for his own pleasure even moderately that which may hurt even one other member or set at work an evil influence which he has

no well-grounded hope for controlling. If we as physicians are to be teachers concerning the use of alcohol, what shall we teach. First, that it is a poison in any quantity, and its container should bear upon it the skull and cross-bones indelibly stamped. Second, that as a therapeutic agent it has no rightful place in medicine. Third, that he who habitually uses alcohol is threatening the physical structure of his stomach, liver, kidneys, heart, blood vessels, nerves and brain, and the evil consequences are transmitted to his descendants to the third and fourth generations. Fourth, that the habitual user is handicapped in any field of activity, be it intellectual, social, moral or physical. Fifth, that its effects are deceptive, that while it is literally destroying the highest centers in the brain and wiping out the fibrils of association so necessary to the will in forming a judgment to act or restrain, it yet deludes its victim to thinking that he has quickened powers, a stronger will, and a better judgment.

Sixth, that it is one of the most dreadful and corrupting agents known to men, debauching Legislatures and robbing every citizen of his labors at the ballot box, making a government of the people, by the people and for the people a farcical phrase, while King Alcohol sits enthroned in the legislative halls.

CHLOROFORM AS A DRESSING IN MINOR SURGERY.

By H. H. STALLARD, HELLIER.

As early as 1897 I began the use of chloroform as a dressing for all small cuts and punctured wounds of whatever kind. We are frequently called on to dress wounds either punctured or lacerated, caused by stepping on nails or striking the hand against a nail. The feet and hands are the most common site for such injuries, though such injuries might occur on any other part of the body. From such injuries as these blood poison develops and sometimes tetanus. I am not going to tell you in this paper how to treat blood poison or tetanus, but will tell you how to prevent it in all such injuries, as above referred to.

We frequently read in the medical journals or newspapers of some one dying from blood poison, resulting from only a slight scratch or injury on the hand, arm, leg or foot. Since 1897 I have only used one remedy for the treatment of such injuries with entire satisfaction to myself and patients. I estimate that I have treated more than two hundred, a few of which I will give in detail.

Case 1. Mrs. S. was walking through the barnyard over some scraps of lumber and old

boards; she stepped on a large nail, which was rusty. The nail entered the ball of the foot between the first and second toes, pushing the skin up on the top of her foot. Her husband could hardly pull the nail out. I happened to be close and in less than five minutes filled the wound full of chloroform for several minutes, removing it, then applying it again after waiting some five to ten minutes. I apply the chloroform by taking the cork out of the bottle, and just turn the bottle up to the wound, so the wound would be filled each time with chloroform. After using the above freely, no other dressing used; the foot was tied up till next day. Condition on the second day, no swelling, no inflammation, used chloroform freely, both on the top and bottom of foot where the nail entered; recovery complete, without pain, swelling or suppuration.

Case 2. Carpenter, wearing a thin sole shoe, stepped on a large nail, which entered near the center of the foot, the nail pushing the skin up on the top of the foot as in Case 1. I used chloroform in the same way as in Case 1. He did no work the remainder of the first day; on the second day he was back at his work; continued the treatment for three days. Recovery complete without pain or suppuration; second and third days slightly swollen, and just a little tender; no treatment necessary after three days.

Case 3. Child 4 years old, fell on a nail, sticking it in her leg just below her knee. Child almost had convulsions she became so nervous and excited, as though she might develop a case of tetanus. Chloroform used same as in Cases 1 and 2 and in twenty minutes the child was quiet, all the nervous excitement was gone, and the child went to sleep. Used the chloroform the second day, recovery complete without swelling, pain or suppuration; no attention necessary after treatment second day.

Case 4. One afternoon I saddled my horse to take a ride; the horse began to limp as soon as I started, and by the time we had gone three hundred yards he could hardly walk. I dismounted to find the cause. On picking up the horse's foot I found a good sized nail sticking more than one inch in the frog of the foot. I pulled the nail out, then took out a vial of chloroform, filled the wound full for a short time. I then remounted and rode on, and must say that the horse never limped afterwards. I think the earlier the chloroform is used the better. I have never tried it in a case of blood poison, but believe it would be an excellent remedy, if used freely and not diluted.

The only thing that I do now is make the first application myself; give them a small

vial of chloroform, tell them to apply it freely the second day themselves; no further attention necessary.

Let us do away with blood poison from small wounds or injuries by using chloroform as the only dressing.

I am not going to tell you why chloroform will do this, for I do not know; it is enough to know that it will do it. Don't dilute it, but use it straight and plenty.

I have just received a copy of the JOURNAL, and I must say that the Editor is doing his best to make it a good journal and a success. Let all who take the JOURNAL write something, tell in your own way how you treat cases; that others may profit thereby. If you haven't done anything, tell us what you think you have done. Let every doctor in Kentucky write something, either a short or long article, every two to four months, and help the Editor; then he can make the JOURNAL what it ought to be.

Don't tell us what other doctors have done, but tell us what you have done yourself, since you have been on the firing line.

REPORT OF A CASE OF EMPYEMA.

By A. P. DOWDEN, EMINENCE.

R. F., aged 37, colored, single, occupation farm laborer.

Family History.—Father died at the age of 50 of tuberculosis; mother living, tubercular, has lost several brothers and sisters from tuberculosis. Was seen first in August of this year. At that time a typical case of large-grippe of the bronchial type; was confined to bed about ten days, when he left town seemingly about well, but with cough. Was advised to stay in the country where he could get all the nourishing food he could eat, and sleep in room with windows and doors open. Returned to me November 3rd, complaining of continual cough, severe pain in right side under nipple, shortness of breath and inability to lie down, with ravenous appetite. Bowels regular, urine normal. Examination revealed temperature 101, tongue coated, pulse irregular, 120-130 respiration 30-30, dullness from third rib on right side down, bulging of the intercostal spaces.

Diagnosis.—Empyema tubercular.

Prognosis.—Unfavorable.

Treatment.—Incision and drainage. On November 11, 1909, after preparing him for operation by bath, attention to bowels, etc., he was given a hypo H. M. C.-Abbott at 1:00 P. M.; at 2:00, one hour later, he was given chloroform by my friend, Dr. Owen Carroll. Owing to his desperate condition, bad surroundings and inability to get any at-

tention, it was thought best to do a thoracotomy instead of a resection.

An incision was made between the seventh and eighth rib, about three inches long into the plural cavity. The amount of pus that escaped would be impossible for me to estimate. I have seen empyemas operated on several times, but have never seen such an amount of pus. A large perforated rubber drainage tube was introduced, and the wound covered with iodiform, gauze and absorbent cotton. This was changed twice a day for four days, when the discharge, having about ceased, the tube was removed, the patient allowed to sit out doors in the sunshine, given plenty of fresh milk, eggs, raw and cooked. One week later he again left town with the wound nearly healed, cough gone, sleeping well at night. Temperature normal since the operation, and apparently on the rapid road to recovery.

I simply report this case for the interesting points.

First, the empyema was certainly a complication, following the grippe.

Second, the immense amount of pus.

Third, the absence of sepsis, tongue was always moist.

Fourth, No chill at any time.

Fifth, the apparent rapid recovery.

WHY MAINTAIN A COUNTY MEDICAL SOCIETY.*

By OSCAR ALLEN, CROMWELL.

It is with some hesitancy that I attempt to give you a paper on this all important subject, considering my age in the profession and experience in a medical society. But every man is more or less visionary and I refer today to an ideal medical society, and why can we not have such in Ohio County? We have the material for one, why not use it? The best work in any line is done through co-operation, but we Americans have been so long in finding it out. We have learned much from foreigners along this line.

You all know how the miners and other co-operative workers have increased their wages, and shortened their hours of labor through organization. You have read with interest the wonderful strides made by the American Medical Association. This Association is just getting in position now to accomplish things. Right recently the Legislature passed a bill appropriating \$30,000 a year to the State Board of Health. Possibly this bill never would have passed had it not been for the co-operative influence of the medical profession of this State. Dr. McCormack

*Read before the Ohio County Medical Society.

is now in Washington working for the establishment of a Department of Health. This will never be done save through the efforts of the medical profession. This emphasizes to some extent the importance of co-operation among the physicians of our country. I am now coming to the importance of the County Society. The durability of a building depends to a great extent upon its foundation. Now the County Society is one of the foundation rocks, one of the units, if you please, which compose the magnificent structure we call the American Medical Association. When we view the County Society from this standpoint, its possibilities for good begin to dawn upon our minds. The human body is made up of myriads of tiny cells, each one of which have a certain function to perform. When a few of these cells degenerate or fail to do their duty certain symptoms present themselves showing a lack of co-ordination. When a certain number stop functioning death to the body is inevitable. The County Society bears the same relationship to the State and National Society that the individual cell does to the human organism. If each County Society is an ideal one and functions properly then the American Medical Association and State Societies will prosper and be a power for advancement along any line deemed expedient. When symptoms of degeneracy present themselves in these higher societies you may be sure the trouble is located in some cell or County organization.

Let us for the sake of the advancement of medical science and the relief of suffering humanity keep our society healthy, alive and progressive. Let us not be in such a condition as to require continual stimulation or treatment to enable us to functionate properly, but let us do our part, do it willingly and enthusiastically. There is no reason why Ohio County should not have as good a society as any in this State or anywhere else. We have the brains, we have men here who have the ability to teach any subject in medicine; why not bring out these latent powers and put them in practical use?

Those who are members of this society should make it their business to help keep up the interest and enthusiasm which is the life of any organization. Be interested yourself and then you can interest others. There are yet twenty physicians in this county who are not members and that is a sad commentary on the profession in this locality. Shall we allow Ohio County to be behind in the way of membership? Nay, let each one of us use our personal influence in bringing our fellow practitioners into the ranks. But, let me here make a suggestion; why not make these meetings so instructive and intensely

practical that every doctor who desires advancement will feel the necessity of being a member. We should by all means take up the course of study as outlined by Dr. Blackburn, of Bowling Green. Some one is going to think now that this would be impossible, as we are scattered too much and have not the time to devote to it. Those who push this work say, that the busiest and most progressive doctors are the ones who enter into this work most heartily. You doctors here at Hartford could have an interesting weekly society if you would only try, and why you have never organized one has always been a mystery to me. There could be three post-graduate clubs organized in the county and distributed in such a way that every doctor could have access to them if he desired. These clubs should meet once a week and once a month all meet together at some designated place and have a general discussion of the topics studied during the month.

You who have never attended one of these clubs can have only a faint idea of the benefit derived from them. It is like attending school again; in fact, I believe it is better, for each one is expected to teach some subject and you know the teacher always gets more out of the subject than the pupil. It will cause you to read and study systematically, and not only that but develop your power of speech and enable you to express your ideas and thoughts intelligently and forcibly to an audience, a gift which so few doctors possess. Besides the scientific knowledge we would acquire through an organized society, we would through a more intimate association become better acquainted and a better feeling for each other would prevail than is in some localities at the present time. Envy and petty jealousies would disappear and we would learn to aid, support and protect each other instead of being in aggressive warfare all the time. Sanitation needs to be taught the laity and this can be done only through an organized profession.

I have given you some mere hints on the possibilities of a County Society as I see one, and hope that every member will assist in making our Society an ideal one.

Lines for Topography of the Chest.—Hampeln urges the discarding of the terms mammary line, axillary, etc., as the anatomic conditions vary so widely in different persons. He suggests as more reliable and exact the use of the vertical median line through the sternum and a horizontal line through the base of the ensiform process. Measurements from these, he declares, are much more reliable for comparison.

HOOKWORM DISEASE.*

By J. B. JACKSON, HOPKINSVILLE.

As the attention of the public is being called to this very important subject, I trust I may be pardoned for selecting a subject that is so new in this section and as it is quite rare, I may therefore quote freely from accessible literature to make my paper interesting and complete.

During the last seven years considerable literature has appeared in regard to hookworm disease in the United States, but not until 1909 when Dr. Wardell Stiles, of the Marine Hospital Service made his report to the health department, after a careful investigation of the Southern United States did the profession and the laity become fully aroused to the importance of this disease.

HISTORY OF HOOKWORM DISEASE.

This parasite was described by Froelich in 1789 and Dubini in 1834 gave it the name of *Ankylostoma*. It is one of the most ancient diseases known to man, for it was described by the Egyptians 3,500 years ago.

Harris was perhaps the first to describe it in the Southern United States, Florida and Georgia. It has been described as tropical and subtropical anaemia, chlorosis, tropical chlorosis as well as many local names. According to Alden 22.5 per cent. of the total death rate of Porto Rico is ascribed to tropical chlorosis.

In our study of hookworm disease and the mode of infection we must not lose sight of the fact that there are other intestinal parasites, that we contract much in the same way and the same pathological condition produced by their presence is not very unlike that produced by the hookworm. Therefore, I trust you will pardon me for calling your attention to a few of them, with a brief description of each or only so far as it effects my subject.

First, we have the eelworm, a large yellow whitish worm, thicker than a lead pencil and sometimes one foot long. The eggs of this parasite develop in the soil and the young worm enters the body either in drinking or on food.

Secondly, we have the pin worm, which infects the lower bowels and rectum. The eggs of this worm is swallowed in the same way or from dirty hands, as they are more common in children who play in dirt.

Thirdly, we have the whip worm, the worm enters the body in the same way, to-wit, by swallowing the eggs; it is a slender white worm about two inches in length. In some parts of Europe 30% of the people are with

this parasite, while it is not uncommon in the United States.

I mention these that you may see that soil pollution is to blame for the presence of these as well as the hookworm.

CAUSE OF HOOKWORM DISEASE.

Hookworm disease is caused by the presence of a small worm belonging to the group of round worms known technically as *uncinariæ*. Two different kinds of hookworm occur in man. One of these is known popularly as the old world hookworm, the other as the new world hookworm. Both of these parasites are known to occur in Africa, the home of the negro; both have been found in the negro. The old world hookworm is relatively rare in the United States where the great majority of cases of infection must be attributed to the new world hookworm parasites.

The new world parasite is known technically as *Necator Americanus*, which means "The American Murderer." This name was given to it because of the great number of deaths it causes, directly and indirectly. It is about one-fourth to one-half an inch long and about as thick and small as a hair pin. It has hard cutting plates or jaws guarding the entrance to its mouth, with which the parasites fasten to the intestinal wall.

WHERE THE HOOKWORM LIVES.

In its adult stage the hookworm is found fastened to the lining membrane of the small intestine. It is also sometimes found in the stomach. It makes a wound, sucks the blood and produces a poisonous substance which injures the person infected. A person may harbor a few hookworms or several thousand, according to the amount of infection to which he has been subjected. As children are usually subject to infection more than adults, the disease is usually more common in them.

HOW THE HOOKWORM DEVELOPS.

These parasites do not multiply in the intestines, as their eggs require oxygen in order to develop. It is important to recall that for every hookworm found in the bowels a separate germ (young worm) must enter the body. The parasites in the bowels lay hundreds of eggs which are discharged by the patients in the stools. An ordinary stool from an infected person may contain thousands upon thousands of these eggs. This is an exceedingly important point to remember, for it is only through the discharges from the bowels eggs escape from the patients, and if all such discharges are properly disposed of hookworm disease can be stamped out of existence. A few hours after the eggs are passed by the patient a young embryo develops in the eggs and escapes from the egg shell.

*Read before the Christian County Medical Society.

This tiny worm, which is scarcely visible to the naked eye, feeds for a few days. Within about a week it sheds its skin twice, in somewhat the way as the snake sheds its skin. It now continues to live in the cast-off skin, but it takes no food until it enters the person.

HOW THE HOOKWORM ENTERS HUMAN BEINGS.

The young worm may enter persons in two different ways. First, it may be swallowed in contaminated water or food. Secondly, it may bore its way through the skin. The second method of infection is doubtless the more common. The young hookworm in boring through the skin produces an attack of "ground itch" (also known as foot itch, "foot-sore," "dew itch," "dew poison," etc.) Thus ground itch is usually the first stage of hookworm disease.

After entering the skin these young worms make their way to the blood and pass with the blood through the heart to the lungs. From the lungs the parasites pass up the windpipe, down the gullet through the stomach, to the small intestine, where they gradually shed their skin two or more times, become mature and then begin their work of injuring the wall of the intestine, of sucking the blood, and of poisoning their victims. There are certain factors which are especially favorable to development of these parasites. Climate has an important influence on these worms. The hookworm which infest man require a certain amount of warmth in order to develop and on this account they thrive better in the South than in the North. In the United States it is a Southern disease, and its occurrence north of Maryland is exceptional.

For practical purposes, we may say that the Potomac and the Ohio Rivers are about the natural northern limit of its distribution, although some few cases do occur north of these streams. Loose sand soil with moisture and shade are more favorable to the disease than dry soil; the sun is usually fatal to the worms.

SOIL POLLUTION.

It has been stated in the foregoing that the only way by which the hookworm eggs escape from the patient is through the stools. As this is also the usual method by which the typhoid germs escape, it is seen careless disposal of the body waste is favorable to the spread of both of these maladies. The contamination of the ground with the disease germs is known as "soil pollution" and all things being equal, hookworm disease will increase as soil pollution increases and will decrease as soil pollution decreases.

Exact studies have not yet been conducted in this country covering any great area in regard to the percentage of negroes infected

with hookworm disease, as compared with the white race in some localities, but it is thoroughly established that hookworm disease occur in the negro as well as in the white, and that in some countries it is especially common in the negro. The comparative statistics thus far available for Georgia and Alabama (in accord with what theory demands) that in our Southern States also hookworm disease is more common in the negroes than in the whites.

An examination of several hundred farms in North and South Carolina, Georgia and Alabama shows that of the farms having no privies, twice as many are occupied by negroes as by whites. This would indicate the negroes to be a much more frequent soil polluter, and if he is infected with hookworm disease in equal proportion to the white race, he will, because of the more frequent pollution of the soil, be a greater factor in the spread of the disease to others and its general dissemination throughout the country.—"Stiles."

The effect of hookworm disease may be divided into direct and indirect effect. Under the direct effect of this disease we may include the symptoms and death due directly to the infection. Among the symptoms due to the direct effect of hookworm infection the following are especially prominent:

In severe infection the patient may be underdeveloped both physically and mentally; they present an anaemia (often mistaken for malaria) and the skin is dry and tallow like; the shoulder-blades are very prominent; and abdomen is frequently swollen (pot-belly); there is usually a tenderness in the pit of the stomach; in about half of the severe cases there are (or have been) ulcers on the shins; in about 90% of the cases the patients have had "ground itch"; the hair in the armpits and on the pubis is frequently very scanty. Hookworm disease is the most frequent cause of "dirt eating." The patients are weak and this weakness brings with it an indisposition to work, frequently interpreted as "laziness."

INDIRECT EFFECT.

As this infection injures the intestinal wall, brings about an intestinal catarrh, and this interferes with the digestion, and naturally increases the chance of death in case the person is infected at the same time with some other disease in which good nourishment is important to recovery. As hookworm infection decreases the number of red blood corpuscles the chance of death in case a person is infected at the same time with some other disease, in which a good supply of oxygen to the tissues is important for recovery. Since good nourishment and proper functioning of

the blood are two of the most important factors in recovery from pulmonary tuberculosis, it is to be expected that persons who have both tuberculosis and hookworm disease will stand less chance of recovery than the person who has consumption but not hookworm disease. In other words hookworm infection has indirect effect in increasing the death rate from pulmonary tuberculosis, it has been estimated that it doubles the chance for death in case of this disease. Quite recently some very important observations have been made in Manila upon the indirect effect of hookworm infection. When the Americans took charge of Bilibid Prison the death rate was 238 per thousand per year; by improving the sanitary condition this death rate was reduced to about 75 per thousand. Here it remained stationary until it was discovered that a very high per cent. of the prisoners were infected with hookworm and other intestinal parasites, although the death rate among the American negro has not as yet been reduced in a similar way, it cannot be doubted that a reduction of their hookworm infection would result in the reduction of their general death rate (from all disease) which, compared with the death rate of whites is in ratio of 29.6 to 17.3 per thousand per year for the registration area. The hookworm has a serious effect upon the mind and prevents children from freely and properly assimilating the education which the country is offering them. The hookworm children are apt to study and learn with difficulty. Perhaps they feel too miserable to even try. In the school they are unable to concentrate their minds on anything and the teacher in the hookworm districts say that if their pupils remain seated for any length of time they swell up. In severe, long standing infections, many patients show echolalia parrot-like repetition. Asked, "What is your name?" they answer, "What is my name?" "Yes—what is your name?" "My name?" "Yes—your name." After a pause, "My name—is John."

Echolalia is a well defined symptom in some forms of defective mentality and dementia. In the severest cases of uncinariasis, the mind is probably always more or less affected.—"Stiles."

Retardation of development due to hookworm has caused a great deal of unmerited criticism to be heaped upon the Southern cotton-mills. The lad of 17 or 18 appears no older than the boy of 10 or 11. The boy of 10 or 11 often looks like little children. Strangers not knowing their real age, and seeing them at work, go away with the lurid stories of the horrors of child labor. Their impression is still heightened if they try to talk with the supposed child. This disease

makes them dull and backwards. Dr. William Western, of Columbus, S. C., has recently published an interesting case in this connection that came under his treatment about seven years ago.

The man whose trouble had been diagnosed as anaemia and two other physicians in consultation, as either Bright's or valvular heart disease. The man's mind had become so affected that his wife decided to have him placed in an asylum. While the commitment papers were being prepared, Dr. Stiles' work on the hookworm came out. Dr. Western read it, held up the lunacy proceedings, made a microscopical examination, found the hookworm ova, and in five weeks the man was back at his work, cured. The doctor uses this as a warning to others and adds that he has since treated between three or four hundred cases with practically uniform good results."

DIAGNOSIS.

The symptoms above mentioned in severe cases would lead one to make a diagnosis without great difficulty, but in light cases especially occurring or presenting for treatment out of the hookworm zone will require alertness. Indeed the motive which prompted the writer to offer this paper lies solely in this one thought, if I can only inspire a search along this line in those cases of anaemia, chronic malaria and general "laziness" presenting themselves for treatment, especially those coming from the South, I will be repaid. Now that so many of our own people are spending their winters in Florida and other Gulf States it is not improbable that we will find in them evidences of hookworm, eosinophilia, especially in the children. Once we see a typical case you cannot forget it. The anaemia condition coupled with a blood analysis showing increased eosinophilia would lead to the suspicion of intestinal parasite. All cases of persistent anaemia should have the stools examined for evidence of hookworms. There are three methods of making this examination.

First—by smearing a small portion of the fresh stool upon white blotting paper and after twenty minutes to one hour remove the feces and examine the spot on the paper. If it resembles blood stain (80% of cases affected with the disease it does) then the case is one of hookworm.

Second method—Is the detection of the worm by inspection, it being large enough to see with the unaided eye. The feces should be collected following a dose of thymol aided subsequently by salts. The specimen should be washed several times thoroughly and the sediment examined for worms. (Three-quart-

er inch long, size of hair-pin and bent like a hook at one end).

The third method—By the aid of the microscope, I will reproduce verbatim this method as described by Stiles, to-wit:

No special technic is necessary, simply take a small amount of feces, preferably from near the surface about the size of the head of a large pin; spread this out in a drop of water on an ordinary microscopic slide and cover the preparation with a common slip. Examine under any moderately light power, as a Zeiss 8 MM., Zeiss C., or a Bausch and Lomb one-fourth inch. Look carefully with not too strong illumination, for a elongated oval egg with thin shell and with protoplasm, either unsegmented or in the early stage of segmentation. The older the feces and warmer the weather the more advanced will be the segmentation. In case of infection with *Uncinaria Americana* (the American hookworm) the fully developed embryo may be found within the eggshell. Be cautious not to mistake for the egg of *Uncinaria*, the eggs of *Asearis lumbricoides* have a thick gelatinous mammillated covering and unsegmented protoplasm on the egg of *Oxyuris vermicularis* with a thin asymmetrical shell, one side being almost straight and containing an embryo or the egg of the whip worms (*Trichuris trichiura*, more commonly known to physicians as *Trichocephalus dispar*) possessing a smooth thick shell, apparently perforated at each pole, and an unsegmented protoplasm.

PATIENT.

I have under observation now two cases of suspected hookworm disease. Mr. W—— brought his son, age 20, to my office about July, 1909, to get my opinion about sending him to an asylum for treatment. He gave a history that for a year past that young man had complained of pain in bowels, some days fever; he had been treated for malarial. When he recovered he seemed to have lost all interest in things that he had been fond of. Said he had at first thought him lazy, but for a month past he had noticed that his mind was weak. Examination revealed no special pathological condition save anaemia, hard and round belly, slow of speech, physically underdeveloped, having the appearance of 16 years old (not in action, however). Not thinking hookworm disease, I made a diagnosis of auto-intoxication, due to obstinate constipation. I ordered an ounce of castor oil every other day for 30 days, giving small doses of mercury every third day. Under this treatment he improved sufficiently to resume work, but the anaemia remained. I believe now that the cathartic removed the poison produced by the presence of the worms; this

improvement caused him to quit treatment. Since treating him, a younger brother consulted me, age 17, yet he appeared to be only about 12 years, he was so chlorotic and his body covered with psoriasis, which he had suffered from for eight years. He was less developed physically than the older brother, mentally he was brighter. It was after examining this case that I suspected hookworm disease of the older brother, as well as of this one. The most pronounced symptoms in each of these cases were, chlorosis anaemia, stupid, slow to answer questions sometimes asking you to repeat, waxy skin, physically and mentally underdeveloped, giving the appearance of being many years younger than age given. I have not been able to make an examination for hookworm or institute treatment, as these young men live some distance from town and not conveniently situated to come in for a week's treatment.

Now that hookworm disease is no longer a fairy tale, we cannot as guardians to the health of our people be derelict in our professional duty of protecting them from infection. With the emigration to and from the South (especially with the negro) we may expect many cases of hookworm disease in our county.

TREATMENT.

Treatment of this malady should be conducted under the personal direction of a physician, as the size of the dose of thymol to be given depends upon the physical condition of the patient. Every person who has the infection, even if it is so light that he does not feel serious or any effects, owes it to his fellow-men to undergo treatment. The treatment is not expensive and it can be carried out without losing time from work.

For an average adult 20 to 30 grains of thymol should be given at 6 A. M. and repeated at 9 A. M. and at 12 M. A dose of salts or a bottle of cit. of magnesia. The day preceding the treatment the patient should be given a large dose of salts and allowed no solid food. This line of treatment should be carried out and every week until the stools are free from hookworm eggs.

During the time of treatment the patient should not be allowed any oils or other medicine that contain alcohol, as either of these will cause the thymol to be absorbed and taken up in the system, thereby poisoning the patient instead of the hookworm.

Never follow thymol with oil.

PREVENTION OF HOOKWORM.

All persons, whether infected or not, but living in the infected area, can aid in preventing this malady. The most important point involved is to prevent soil pollution. As

stated in the foregoing, because of the absence of many privies many farms, schools and churches are acting as a medium for soil pollution, resulting in hookworm disease and certain other maladies.

If there is a sewer present, it is best to construct a water-closet and connect it with the sewer. If there is no sewer, the next best thing is to construct a septic tank and a water-closet. There are many who can not afford to have a water-closet with septic tank, and under these circumstances the next best thing to do is to construct a sanitary privy and to clean it regularly. The following are the chief features of one type of this important outhouse: there should be a good floor extending under the seat as well as under the front part; a water-tight tub or barrel or galvanized pail is placed under the seat; on the bottom inside of this receptacle is placed a thin layer of sand or dirt each time it is emptied; the tub should be filled about one-fourth full with a 5% crude-acid solution (1 part of crude carbolic acid to 19 parts of water); if economy is an important point, the tub may be filled one-fourth full of water and a cup of kerosene poured on the water, but if kerosene is used care should be taken not to throw any lighted matches into the tub; the back of the privy is provided with a hinged door, which is opened only in order to remove the tub for cleaning, while at other times it should be closed tightly in order to keep out flies and animals; the seat should be provided with hinged covers; the front door should be hinged so that it will close well, to keep out the rain; it is a good plan to place a ventilator in the roof, also one on each side near the roof and one each side of the tub; it is desirable to screen with wire netting all these ventilators, in order to aid in keeping out flies.

The tub should be cleaned regularly, once or twice a week; the night soil should be burned or buried. This should not be done within 300 feet of any well, creek, spring or other water supply. Under no circumstances should the night soil be used as top dressing on the gardens; if used at all for fertilizing purposes, it should first be allowed thoroughly to ferment, preferably in a vat, and then it should be plowed under in fields far removed from the house; while fermenting a cup of kerosene oil should be poured into the vat in order to keep flies away; it is dangerous to dump the night soil on the manure pile, as flies breed in the manure, and if the night soil is mixed in, the flies may carry fecal material to the kitchen or dining room and infect the food with filth and with disease germs.

Still another plan is to build a vault under

the privy. If this is done, it is well to pour a cup full of kerosene oil into the vault occasionally in order to repel flies.

The average privy found in the South is known as a "surface" or "dirt" privy, and is a very poor substitute for a water-closet, as it permits soil pollution.

Whatever style of closet is selected or whatever fluid is used, the chief points to be held in mind are: prevent soil pollution; so protect the night soil that flies and other insects can not breed in it or feed upon it; and keep it out of the reach of animals of all kinds.

It lies within the power of preachers and teachers to play a very important role in reducing the death rate. They are the persons to whom many people look to set the example. If preachers and teachers themselves permit the yards of churches and schools to be defiled by soil pollution it need not be thought strange if farmers permit soil pollution to occur around the homes. Further, it should be recalled that every church and every school around which soil pollution is permitted to occur may act as a disease-breeding center from which infection can be spread to the farms and homes. Further, also, not only can preachers and teachers do good by setting an example in preventing soil pollution, but if they will point out to their friends the dangers which this pernicious habit carries with it, they can be very important factors in inducing the public to institute more sanitary customs, and thereby they can be important factors in reducing the death rate.

THE FORUM.

To the Editor:

A recent communication containing a dun for epistolary arrears has been duly received. To be on equality with "the brethren" whose motto is "Come forward with your tithes and offerings," I shall, as a private in the rear rank, obey the precept and present myself like an old beau, popped out of the bandbox of long ago, ready to deliver one-tenth of what I know.

It has been said with some truth of Mr. Trollope's singularly clever novels, that they may be taken up at almost any time with pleasure and laid down again without serious regret. "Laid down without serious regret" will be your verdict in the case of this epistle, and, if I mistake not, you will order a trial to the Inquisition on the charge of being minus divine inspiration. My safety lies in you not opening your sleep-closed eye. Please don't. I wish I were the possessor of

an infinite and electrical power of combination which would enable me to send you a letter that would make Tam O'Shafter's ride look like a summer evening's saunter; or a poem the equal of "The Epistle to a Tailor," in which the unregenerate biblicist is represented as seeing witches in Alloway Kirk. Seeing snakes is an incomparable sensation; I shall not attempt to explain it, except to say there's much poetry and metaphysics in an attack; yet I'll promise you if I ever acquire a "tuberculous mind," the kind which is said only to have creative faculties and frenzied fancies, I will 'phone; but until I stumble into the ecstasies, I must remain of the earth, earthy. A tacit admission is that in my callow days I attempted to juggle with the Muses, but to my everlasting credit, be it said, I followed the habit only in private, and then, when in a "psychic" state, and not in the "State" of Utah, where iridescent dreams are rather scarce. If you will listen I will modestly unfold a little tale. It has been my province, as it has been my pleasure, as a medicine-man to employ suavity and agreeable sedatives in all moods of mind and with everybody. This is the philosophy of life.

A little indiscretion of speech, of recent date caused me to sit up and observe. It may seem puerile, and if my sense of the ludicrous seems to lead me beyond the bounds of good taste in reciting the incident, be good, and pass my youthful imperfections by. Many of us are like the woman in the ancient anecdote who was open to conviction, but never yet saw the man who could convince her. There are two sides to every question, and that is true with most things of life. Even the consideration of both sides may not change our opinions, or alter our actions, still we have the after-glow of satisfaction of knowing that our course was governed by due deliberation and we may be saved worlds of regret. And, yet, with all this a fellow may slip up in his own grease. We must become wise by means of feeling (which is the naked thing); reason tells us, "so it is" only after feeling has told us "so it must be."

The long way is the sweetest way home to this "abbreviated continuation": A nice lady brought her son and heir to the office for "diagnosis and treatment," as she learnedly remarked; she didn't care so much for drugs, but she really wanted to know what "ailed" Tommie. She gave Thomas' pedigree, antedating by ten days his advent into the Wasatch mountain life, some nine years; afterwards came the yarn of woe, linked sweetness long drawn out, the very essence to make entertainment for the busy doctor. I looked the candidate over carefully, prom-

ised to make a prayerful matter of it and to report "*secundum artem*" at her next visit on the morrow. The mother and son then made their exodus. In a little bit a woman with a large and serene benignity entered and without much ado, asked, "What is the trouble with the lad just in? It is the unexpected happenings that cause our mental perturbations; I could have been felled with a feather. Quickly replying, to shorten debate, and not caring Adam, I said: "bats in his belfry and the hook-worm disease." The colloquy ended, but, as the sequel shows it isn't every one who can carry correct news even though it be good. I had refused the mother, but had confided in her neighbor. Holy smoke!! Bright and early the next day the aggrieved mother returned, bringing her sacrificial lamb. The considerate friend, who had been sent to quiz the doctor, blurted out: "Tom has rats in his belly, produced by hook-worm disease." You know when you let a woman say what she thinks it always clears the atmosphere. Tommie's ma clarified things. Also, you know when a woman starts out to be foolish she can be foolisher than anything in the world except it is a few weeks old coyote, and even then it is a stand-off. The way of the world-feminine is not to do anything half-ways. When a woman is sensible, and that is most all the time, she is the sanest, the safest and the sweetest of God's creatures, but when she misunderstands and misquotes the doctor—well, the pig on ice isn't a marker for mischief compared with this "angel." There are some folks who are never happy unless they are miserable. This insignificant doctor's episode is hardly worth moralizing about, but, take the whole amount of rapture which has ever been experienced from the contemplation of the Venus of Milo and consider whether it is equal, in the long run, to the pleasure the medicus has in considering the two sides of a momentous medical question. 'Tis glorious to have thrills of enthusiasm! On this occasion I was enough of a courtier so as not to parade the doctor's usual "standing alibi." The amende was made honorable; Tommie's prescription that I made was of itself punctillious exactness—he soared with a uniform and easy flight into the realm of health.

I shall guard my patient for the cure of hook-worm disease with jealous care that the Council of Pharmacy of the A. M. A. may not have the pleasure of exposing its mystery. There's millions in it.

Now to the "shop."

A disease rarely seen in Kentucky is now epidemic in these high altitudes, in San Pete, Cache, Iron and Sevier Counties, Utah. It is goitre or hypertrophy of the thyroid. In one

small town the percentage of inhabitants is 80 per cent. for females and 5 for men. In the districts further south more than half the women have the ailment in more or less severe form. In certain parts of the mountainous districts of Switzerland the conditions are found about the same as they are in Southern Utah. Extensive experimental work has been carried on in Basle in conformity of the assumption that the drinking water in certain geological formations contains a substance which produces both goitre and cretinism; and the fact that the thyroid is the one gland affected by this element confirms the assumption that the cause of the enlargement is a poison and not a micro-organism.

The Secretary of the State Board of Health of Utah recently stated that chemical tests of water in the above mentioned counties only revealed the same constituents as were found in the regions where goitre is not prevalent. What is the direct and intimate element your deponent sayeth not; it must, however, be in the water.

The varieties we have seen are the parenchymatous and the vascular. Thyroid extracts holds out more prospect for cure than any other medicament. To migrate, and to travel in a "Prairie Schooner," a few hundred miles is said to act miraculously in some cases.

I see that the Devil is about to come into his own and that the entire army of Uncle Sam is to be headed by two doctors and neither is a West Pointer. Doesn't that jar you? Two doctor generals and what will they do with the army is a question agitating not only West Pointers (from generals to new second lieutenants), but their wives discuss what happens in the army, which is as much of a domestic as an official affair. Both are surgeons—Wood and Ainsworth. Hurrah for the docs!! I musn't talk "shop" longer, it is too soporic in my hands.

Occasionally, in the night watches, I feel like obeying the warning instinct of nature and escaping to the fields of "Old Kaintuck" before health and the opportunities of happy usefulness have gone forever. When: let the echo answer.

In closing this screed, with my compliments to the fellows of the Kentucky State Medical Association, let me give you what the child receives, the young man steals and the old man buys; not enough for one, just enough for two and too much for three. Adios.

Yours very truly,

STEELE BAILEY.

COUNTY SOCIETY REPORTS.

Bullitt.—The Bullitt County Medical Society met at Shepherdsville, April 11. The following members were present: Bates, Kirk, Overall, Hill, Redgway and Hackworth. The following officers were elected:

W. W. Hill—President.

S. W. Bates—Vice President.

A. C. Overall, Secretary-Treasurer.

The following resolutions were adopted:

Whereas, in view of the loss we have sustained by the decease of our friend and associate, W. W. Coleman, and of the still heavier loss sustained by those who were nearest and dearest to him, therefore, be it

Resolved, That it is but a just tribute to the memory of the departed to say that in regretting his removal from our midst we mourn for one who was, in every way, worthy of our respect and regard.

Resolved, That we sincerely condole with the family of the deceased on the dispensation with which it has pleased Divine Providence to afflict them and commend them for consolation to Him who orders all things for the best, and whose chastisements are meant in mercy.

Resolved, That this heartfelt testimonial of our sympathy and sorrow be forwarded to the family of our departed friend, and also to the State Journal for publication.

R. L. HACKWORTH, Secretary.

Daviess.—The Daviess County Medical Society will meet at Hickman Park, Owensboro, on June 21, 1910. Will have a big meeting and a splendid program.

J. J. RODMAN, Secretary.

Grayson.—The Grayson County Medical Society met at Leitchfield in G. W. Armes's office, April 7, 1910.

House called to order at 3 P. M. by the President, H. C. Duvall.

First before the house was a motion by S. L. Given, to change our meeting from the first Thursday in each month to the first Wednesday. The motion was seconded by Dr. Phelps. After a short discussion it was found that this change would be more favorable to some and would work no hardship on others, so the vote was taken and carried in favor of the motion.

John Conklin read a paper on anterior and posterior nasal catarrh.

J. T. Green discusses the paper rather extensively, but in the whole does not differ from Dr. Conklin only in the use of a few remedies; also he claims it to be a very unsatisfactory disease for the general practitioner to treat.

S. H. Armes compliments the paper very much, but wants to know what to do with the

complicated cases, such as adenoids, enlarged turbinates, etc. The essayist answers the question, and claims that these can often be reduced and sometimes gotten rid of under prolonged treatment without resort to an operation, for which he recommends the ordinary douches used for cleansing and mild astringents.

G. W. Armes lays much stress on internal treatment.

A committee of three, J. T. Green, W. S. Clark and S. H. Armes, were appointed to see Pitman & Meyers' representative and contract with them to furnish what drugs we need during the next twelve months. This company having been decided on by the Society, not as furnishing the cheapest drugs, but the best drugs for the least money, quality being the first consideration. (We had placed a contract before this with another company, but owing to the Society having introduced a clause in the contract requiring the company to take up all goods not coming up to the U. S. P. standard, the company refused to sign same).

Lastly, subjects were appointed for the next meeting as follows: J. T. Green, on syphilis; C. L. Sherman, Why Are Not All Doctors Christians?; S. H. Armes on Gonorrhoea; G. W. Duvall on Septicemia.

House adjourned to meet the first Wednesday in May.

C. L. SHERMAN, Secretary.

Henderson.—Henderson County Medical Society met at Y. M. C. A. at 8 o'clock P. M., W. M. Floyd, Vice President, in the chair. There were present Doctors Graham, Letcher, Poole, Ligon, Moss, Dunn, Griffin, Floyd, Branson, Forwood, Galloway and Hancock, and by invitation clergymen, Vernon, Thompson and Chandler (15). The minutes of previous meeting were read and approved. Committee on abortions reported and asked for further time, which was granted.

W. A. Poole reported a case of psoriasis following vaccination. The case will be exhibited at a future meeting of the Society.

J. H. Letcher exhibited hook worms in a bottle. They were secured by him in New Orleans while on a recent visit to that city. He also exhibited a tumor which he had removed under local anesthesia from the vagina of a maiden lady.

Papers for the evening were read by Moss, Poole and Ligon in the order named.

R. H. Moss—Empyema. The essayist in his usual painstaking and thorough way gave us a comprehensive study of the subject. Etiology, secondary usually to pneumonia or some other disease. Diagnosis requires careful study, but with this is not difficult. Treatment, sometimes aspirate. Best by drainage, usually by resecting

a rib. Chronic and intractable cases by multiple resection, and bismuth parte.

W. A. Poole, Auto-Intoxication—This paper went thoroughly over the field. The views of different investigators as to what constitutes auto-intoxication as distinct from putrid poisoning were given and commented on. Elimination by lungs, skin, bowels and kidneys was given attention. Absorption from intestinal tract and lack of liver function were given prominence in auto-intoxication over faulty metabolism. Acidosis and acetonemia were each given proper relation to auto-intoxication. Summing up, auto-intoxication was made by the essayist the cause of many idiopathic diseases. The positions taken were far reaching and comprehensive. This was one of the best papers presented to the Society for many months.

P. Ligon, Alcohol—This subject was dealt with, First—as a poison which should bear the skull and cross bones; second—therapeutically, it has no place either as medicine or food; third—besides destroying normal function its evil effects are transmitted even to the third and fourth generations in lowered mental power, imbecility and idiocy; fourth—every higher faculty of the mind is lowered by the use of alcohol; fifth—it is deceptive and seductive, making its victims think he is stronger mentally and physically, when in fact the reverse is the case; sixth—its votaries are the greatest lobbyists and corruptions in the known world, making government of the people, for the people, by the people a farce.

Enlarging upon these propositions the essayist gave the work of advanced thought on the subject. Recent meeting of national and international importance were reviewed. The fact that children whose parents use alcohol go to school and at life discounted 50% to 75% in mental capacity is a pathetic story and humiliating to parents who know the cause.

As a cause of tuberculosis alcohol demands more attention than the management of the disease. The essayist by his thorough treatment of the subject did a great service to the society and those present.

D. O. Hancock—I would emphasize the statement of Dr. Moss that a cavity which requires irrigation needs better drainage. Bismuth paste in empyema has given gratifying results. The large quantity used in this way and in the study of the intestines with X-Ray and bismuth has proven bismuth poisonous and that it must be used with more care in the treatment of infantile chawhoras.

W. S. Forwood agrees with Dr. Ligon's statements. He has personally seen much pauperism caused by alcohol. The moral phase omitted by the essayist should be emphasized. The profession should speak out on this subject.

J. H. Letcher—These papers are all excellent. Dr. Ligon has given us much practical and use-

ful data on the subject of alcohol. He believes that the medical profession needs education on the use of alcohol. He knows a doctor who is sure he has saved many lives with whisky. Our text books are behind time on alcohol as a stimulant.

M. C. Dunn—Most proprietary medicines contain alcohol from 15% to 30%. He thinks this a fruitful source of drug and alcohol addictions.

Dr. Floyd—Alcohol is not a heart stimulant. Our text books are wrong on this subject. The heart, blood vessels and capillaries are to be considered and the physiological action on each.

Alcohol is not an antidote to poison, snake bite, etc. It is contraindicated in these conditions. Alcohol is not a food. No scientific man claims that it is. Alcohol destroys nutrition, impairs metabolism and causes disease by lowering nature's resources for combatting disease. Alcohol lowers both the mental and physical make up of man. This is proven beyond question by the most scientific experiment.

Rev. S. J. Thompson—I am glad to be at this meeting. We preachers have dealt chiefly with the moral side of this subject. I am encouraged by the scientific side as presented by this Society. Some months ago the ministers of Kentucky received from the liquor interests in Kentucky a request that we preach on the change of water into wine by our Savior. I say to you that no man can prove that that wine would make a man drunk. The medical profession are not all abreast with you on this subject. There remain doctors who prescribe alcohol and whose trail in their communities are strewn with drunkards and users of morphine. I trust that all may soon learn the scientific facts that you have recited and attested here tonight.

Rev. Jas. A. Chandler—Last Sunday I responded to a request of the Anti-Tuberculosis Society and had an address from my pulpit on that subject. I should be glad to again give my pulpit for an address on alcohol such as I have just heard. Good would come of giving this paper to the public. I hope you will do so. We have taught the moral side. The scientific will do more good now.

A motion was carried that the paper of Dr. Ligon be given the local press for publication.

Adjourned.

D. O. HANCOCK, Secretary.

Metcalf.—The Metcalf Medical Society met in Dr. Yates office March 9, 1910, with Dr. Edwards, Yates and Vanzant present, the President, Dr. Edwards, presiding. We passed some resolutions as far as we are concerned. We raised the rates and mapped off the territory for certain charges, and three or four interesting cases were discussed. We have agreed to meet in one or the other offices every two weeks, and at the next meeting I will send you a paper for publication.

I am sorry I can't get the whole society to meet, but I can't make them come, but us three are going to meet every two weeks.

H. R. VANZANT, Secretary.

Muldraugh Hill.—The Muldraugh Hill Medical Society met at Elizabethtown, April 14, with a good representation from each of the twelve counties comprising its territory, H. D. Rodman, of Bardstown, Ky., presiding. In the discussion of the subject, "Significance of Our Recent Medical Legislation," a resolution was adopted, congratulating the medical profession of Kentucky in general, the Councilors of the Kentucky Medical Association, the State Board of Health, and Dr. J. N. McCormack in particular, upon the successful enactment of the following measures:

1st. The appropriating of \$30,000.00 annually for promoting the health interests of the state.

2nd. The act of creating the bureau of Vital Statistics. 3rd. The Abortion Bill.

The following resolution was also unanimously adopted:

Whereas, It is believed by those best informed on the subject, that one-third of the deaths which occur in our nation every year are caused by tuberculosis, typhoid fever, diphtheria, dysentery, scarlet fever and other diseases which are practically preventable, and other sanitary conditions, and,

Whereas, This unnecessary sickness brings an annual tax upon the people of the United States every year greater than that collected legally for all purposes, and requires for its prevention specially skilled and trained health officers operating under an efficient department.

Be it Resolved by the Muldraugh Hill Medical Society, composed of the counties of Hart, Green, Taylor, Marion, Nelson, Grayson, Breckenridge, Hardin, Meade, Bullitt, Jefferson and Darue Counties, and representing about one thousand physicians, who in turn have in their charge the health and welfare of approximately one million people:

That these facts shall be forwarded to our Representatives in the Congress of the U. S., with the request that they be given due consideration when questions affecting public health are demanding their attention:

That, we, as a Society and individuals, express ourselves in favor of the creation of a National Department of Public Health, believing that its establishment upon a proper basis will work more benefit in the way of conservation of National Resources than any measure before contemplated:

That we thank Senator Robert L. Owen, of Oklahoma, for his support of Senate Bill No. 6049, and urge his continuance of the fight to a final issue:

That a copy of this resolution be forwarded

to President Taft, the members of the National Congress that represent this district; the daily papers of Louisville, Ky., and the State Medical Journal.

A number of interesting cases were reported by several of the physicians. Among them were some cases of appendicitis, reported by Dr. Dunn, of Louisville, Ky., illustrating the three classes of patients we most commonly confront. First, that class of cases who do not deny the surgeon the privilege of any treatment that he may order. Second, those who put the surgeon off from day to day and prefer to assume the responsibility of whatever may happen, until there develops some sudden, alarming symptom which calls for operative interference. Third, that class of patients who have that courage and confidence in their surgeon to undergo operative measures during the interval between the attacks of appendicitis.

As a guest of the Society, Jos. E. Wells, of Cynthiana, President-elect of the Kentucky State Medical Association, read an interesting and most instructive paper on "Our Duties to Ourselves." In this paper, the doctor strongly advocates the following of the lesson as taught in the Golden Rule of Confucius and quoted by our Saviour. He insists that every physician have a preliminary scientific education. He believes that the people are entitled to honest scientific work from their physicians, and on the other hand, he believes that the "laborer is worthy of his hire" and strongly advises that the physicians charge an adequate fee for their services, and insists upon prompt payment of the same.

David W. Gaddie, of Hodgenville, read a highly instructive paper on "Flies." In this paper it was strongly brought out that the common house fly is the commonest carrier of such diseases as typhoid fever, cholera infantum and the dysenteries. The mode of conveyance being by direct contact of the fly with the food which we eat and drink, after having contaminated its feet with the human excrement from those diseases. This paper was classical in thought, well read and was deemed of such importance that he was urged to read it before a public meeting to be held in Bardstown in June.

David C. Donan, Jr., of Horse Cave, presented an interesting paper, entitled "A Few Remarks on Head Injuries, With Report of a Case."

W. L. Heizer, of New Haven, in a paper entitled "Some Routine Work of the Country Practitioner," brought out by a series of reported cases, the fact that the country doctor, thrown upon his own resources, is of necessity compelled to do some of the difficult work of the various specialists in medicine.

H. H. Grant, of Louisville, presented the Society with a valuable paper upon "Urgent Sur-

gery in Chronic Lesions," in which he stated the danger of unnecessary delay in purely surgical conditions, and urged upon the general practitioner, the necessity of compelling the patient in need of unavoidable surgical attention, to have this work done at the earliest time, in order to lessen the dangers incident to delays.

P. F. Barbour in the discussion of Hester's paper upon "The Management of Normal Labor Cases" mentioned the importance of the position of being upon the side to prevent laceration. This position gave the obstetrician the advantage of more effectual pressure upon the perineum as it is being stretched in the last period of the second stage. He took exception to the plan of any aid that may be given the woman by insertion of the finger into the rectum, as any material advantage that might be gained in that way (and he doubted the advantage) would be overcome by the increased chances of infection, by some of the various organisms that always are found in the fecal matter of the rectum.

C. Z. Aud discussing the same paper made mention of several cases in which he has delivered women over 50 years of age. He took occasion to condemn in no uncertain terms the use of the Kelly pad in the lying-in chamber. He sees no need whatever of having same when oil-cloth is so cheap. He makes a practice of having a plentiful supply of clean soft cloth and he keeps some of this between his hand and the parts. He can in this way keep the discharges from the vagina and rectum constantly wiped off and limits to a minimum the chances of infection. He also takes occasion to rupture the membranes when a certain stage of dilation is reached, as this shortens the stage of labor and saves the strength of the patient. This can be done too soon of course and results in a prolonging of labor. He paid his respects to the wonderful tablet of Waugh and Abbott.

J. W. O'Connor, of Elizabethtown, has long since decided that every woman in labor is entitled to the use of chloroform. He believes the danger in the use of this agent is overestimated in the practice of obstetrics. The intelligent use of this anaesthetic saves the patient's strength, gives comfort to one that needs it and is the most effectual means of preventing laceration of the soft parts.

H. D. Rodman, of Elizabethtown, called attention to the complication of post-partum hemorrhage. He has never lost a post-partum case, but lost one ante-partum. He has never tried hot water to check the blood, but has relied upon ice in addition to the other means of manipulation, etc., as practiced in the treatment of these cases. He has used the Kelly pad and has never had a case of infection in that time. He sees no reason why this pad cannot be as readily sterilized as anything else. He advises the use of the apron, as our clothes are more or less per-

meated with the dust of the street, and this garment may save the patient from infection.

G. G. Thornton, of Lebanon, uses the Kelly pad and places between it and the parts a sheet. He does not believe that the various organisms are sufficiently acrobatic to flounce through several layers of cloth and land flat-footed in the uterus ready to do the stunts of puerperal infection. He fears them, but is not terrorized by them. He mentioned the condition of post-partum hemorrhage and reported one case of partial placenta praevia, in which the placenta and membranes and child were expelled entire.

J. H. Hester in closing defended his use of the pad and described the method he used in the sterilization of same. He endorses the use of chloroform in obstetrics and sees no advantage whatever in employing this agent.

G. G. Thorton in opening the discussion of Dr. Barbour's paper upon the "Practical Feeding of Infants," mentioned as one of the commonest causes of indigestion in infants is the establishment of a vicious circle of feeding. Irregular and too frequent feeding, causing indigestion and more food to relieve the trouble, adding fuel to fire. In lots of cases by the simple regulation of diet stubborn cases are cured without a dose of medicine except a preliminary purge. He uses buttermilk, malted milk to advantage.

B. M. Taylor, of Greensburg, mentioned as a large cause of summer troubles in infancy the infections of food as caused by the common house-fly, also from infection by means of the baby crawling around on the floor, getting its hands dirty and conveying various germs of fermentation and putrefaction to the intestinal tract to the food.

C. Z. And wondered how much the element of personal dislike entered into the indigestions. Some people are naturally sickened by certain foods and it may be that this plays a part in these troubles.

P. F. Barbour, closing mentioned that tubercular milk was one of the dangers that was more often found in cities than in the country. While there has been a great deal of discussion as to the transmissibility of tuberculosis of the cow to the human and the result of the milk from a tubercular cow, there is no question but that a tubercular udder yields tubercular milk and this in turn can and does produce tuberculosis of the infant, especially intestinal infection.

Eggs are too nourishing to feed in any quantity to the infant. Seven whole eggs are sufficient for an adult and one-half an egg is plenty for an infant of one or two years.

In the dilutions of cow's milk the aim should be to arrive at such proportions of the various ingredients of proteids, sugars and fats as will be easiest digested. This is sometimes quite difficult. He uses in some cases the unsweetened

condensed milk properly diluted and sweetened with milk sugar. The addition of citrate of citrate of soda to cow's milk helps to reduce the curd to flocculent masses more easily digested.

P. F. Barbour in opening the discussion of typhoid fever limited his talk largely to typhoid as seen in children. It was common to hear that typhoid rarely if ever attacked children. If they drink infected water or milk it is a fact that they may have and do have typhoid. The onset, however, is more sudden and the fever is usually quite high before the doctor sees the child. Instead of diarrhoea constipation is the rule. The pathology in the intestinal tract is different and results in a different symptomatology. There is the usual hyperemia, and inflammation of the Peyer's Patches, but skipping the stage of ulceration and possible perforation there is resolution. This makes a skip in the symptoms from the first to the third week, the second week of mixed infection and concomitant symptoms are absent. There being no ulceration the appearance of hemorrhage is rare. This makes typhoid in children less dangerous than in adults for this reason. One authority has made the statement that he has never seen a case of typhoid in a child under 8 years die of typhoid. This seems too hopeful, but with the absence of ulceration and necrosis and mixed infection the dangers are minimized. There is scarcely ever any nervous symptoms for obvious reasons.

Oscar Bloch, of Louisville, discussing the subject of typhoid took up some of the complications, particularly hemorrhage and perforation. Coming with the former there is a drop in temperature suddenly, and rapid pulse with prostration. He uses adrenalin hypodermically in addition to posture and the other known measures of relief. In perforation some cases effect a spontaneous cure by a limiting by peritoneal adhesions. The large majority die, the mortality being 98 per cent. when this accident occurs. The chance of relief by operation are remote when one considers the time that must elapse from the time the perforation occurs till the operation. Operation in 12 hours saves about 25 per cent. Operation saves in a diametrical ratio to the time elapsed after a perforation. The operation consists in locating the opening, repair and drainage.

S. T. Hubbs uses in the condition of hemorrhage lead and opium by the mouth, and gave cases illustrating the beneficial effects from its use. He gives $\frac{1}{2}$ gr. opium and 5 grs. acetate of lead and increases the dose to $\frac{3}{4}$ of opium and 10 grs. lead if continued bleeding requires.

J. H. Hester reported a case of hemorrhage in which he used the lead and opium treatment and bound the bowels for 14 days. Upon movement with an enema the hemorrhage returned and he bound them again for 7 days, when the bowels

were moved by enema without a recurrence.

D. C. Bowen expressed no confidence in adrenalin in epistaxis, hemorrhage from the lung or bowel and believes its use has been largely overestimated. He believes its use is confined to hemorrhage upon bleeding mucous surfaces and as a stimulant.

McLean.—McLean County Medical Society met in regular session April 12, 1910, with the following members present: H. W. Gates, W. L. Haynes, W. P. Miller, E. Bandy, R. L. Ford and J. H. Harrison. President Ayer was absent. Dr. Bandy was chosen to preside over the meeting.

The committee on credentials presented the following names for membership: W. W. Spicer, of Calhoun; Dr. Moore and J. W. Clark, of Sacramento; Dr. Almond, of Island. By vote of the Society all were elected members and admitted to full fellowship.

H. W. Gates offered for the Society's consideration the following resolution: Resolved that the McLean County Medical Society endorse the sentiment embodied in the Owen Senate Bill No. 6049, establishing a department of health, and recommend that our Senators and Congressman give it their unqualified support. The resolution was passed by a unanimous vote.

On motion the chair was instructed to appoint a committee to arrange a program for our next meeting. The chair appointed Drs. Gates and Bandy.

Our next meeting will be held at Calhoun June 14, 1910. The committee have arranged the following program: Malarial Fever (Remittent and Intermittent). Discussion by the Society. Each member is expected to have something to say on the subject.

We want every doctor in the county to be there and urge that every member of the Society be present.

J. H. HARRISON, Secretary.

Ohio.—The Ohio County Medical Society met in the office of A. B. Riley, Hartford, April 6, 1910, with the following members present: A. B. Riley, J. W. Taylor, J. O. McKinney, E. W. Ford, S. J. Wedding, Shultz and Allen, with the following visitors: E. B. Pendleton, Miller, of Hartford, and D. C. Barrow, of Lexington. This was the first meeting of the year, it having been voted last December to not meet until April on account of the weather and bad roads. We had an excellent clinic, some of the most interesting cases that have ever been before the Society.

E. W. Ford presented a case of injury of knee from being run over by car wheels. These cases are sometimes entertaining from a lawyer's standpoint, but this patient admitted receiving his injury while off of duty.

J. W. Taylor presented a case of sarcoma of inferior maxilla, one which had progressed so far

that none present would sum up the courage to operate on him.

S. J. Wedding presented a case of vertigo which was the most interesting from a diagnostic standpoint of all. Some thought aural disease caused it, but I think the majority of the members thought it was caused from gastro-intestinal trouble.

E. W. Ford reported an autopsy confirming the diagnosis of carcinoma of the stomach, but this was not made early enough for an operation.

E. W. Ford gave us an instructive talk on the "Treatment of Pneumonia," emphasizing the importance of isolation, absolute rest and quiet, thorough ventilation, bringing out the use of the Kerley ventilating board. He believes we should resort to venesection more frequently than is done at the present time. He condemned the use of antiphlogistine and similar preparations as doing more harm than good. He said he had had no experience with inhalations.

A. B. Riley said he had good results from inhalations.

E. B. Pendleton advocated antiphlogistine especially in children.

Oscar Allen read a paper on "Why Maintain a County Medical Society."

Society adjourned to meet again Wednesday, May 4, 1910.

OSCAR ALLEN, Secretary.

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: J. H. Baubour, W. H. Yelton, John E. Wilson, J. Ed Wilson, N. B. Chipman, W. H. McKenney, K. B. Woolery, S. M. Hopkins, J. F. Daughtry, T. C. Nichols, J. A. Caldwell, P. N. Blackerby, A. L. Beckett, thirteen in all. After being called to order by the President, and a roll call, we proceeded to the business under miscellaneous business.

J. Ed Wilson reported that he had a communication from Dr. C. A. L. Reed, of Cincinnati, requesting him to bring before the Society Senator Owens' National health bill, and have our Society draft resolutions indorsing it, and have them forwarded to our United States Senators and to our Congressman from this district. Carried. Committee: J. Ed Wilson, W. A. McKenney, K. B. Woolery. The Secretary read a communication from the Journal of Clinical Medicine, calling our attention to a bill introduced into the United States Senate by Senator Calhoun of Illinois, entitled, "A bill to regulate the manufacture and sale of habit forming drugs." A motion was made and seconded to refer this matter to the committee on the former resolution, which was carried, and they drafted resolutions suitable. On motion of J. Ed Wilson, seconded by W. H. Yelton, that the chair appoint a committee to draft resolutions of thanks in regard to our State Senator and Rep-

representative for their noble work at the last session of the Legislature. Carried. The chair appointed the same committee as on the previous resolutions, Ed Wilson, W. A. McKenney, K. B. Woolery. The committee reported the following resolution:

Whereas, It has come to our knowledge that you did work unceasingly and untiringly for the cause of medical legislation at the last session of the Legislature, and whereas such good work was the means of securing more needed legislation than has ever been secured before in the State,

Therefore be it resolved, That we and each of us members of the Pendleton County Medical Society, do most earnestly and sincerely thank you for the stand you took for the welfare and advancement, and in behalf of one of the most noble of professions.

Therefore be it further resolved, That we not only extend to you our thanks, but the thanks of the united profession of the State of Kentucky.

At this point Dr. W. H. Yelton arose and called upon the Secretary to arise also, and according to a pre-arranged program, in a very neat speech in behalf of the members of the Society presented the Secretary, W. A. McKenney, with a beautiful fountain pen, in appreciation of his services as Secretary of the Society. This closed miscellaneous business. The next, a report of clinical cases, John Wilson reported the following: 1st—A case presented at our last meeting, a child 4 years old suffering some pain at the hip joint, was diagnosed as a partial dislocation. Dr. Wilson took the child to Dr. Lewis in Cincinnati, and he examined him very thoroughly, and he made a positive assertion that it was not a dislocation, but was inflammatory in character, and possibly tubercular. I put the whole hip up in a plaster Paris cast, and he has been getting along all right, not suffering any pain at all; the pain ceased at once when I put on the plaster.

J. A. Caldwell reported a case of appendicitis. Six weeks ago the man was taken sick, vomiting and sick stomach; temperature 101, pulse rapid, marked rigidity of the right rectus muscle, with tumefaction over the appendix. I put him flat on his back and starved him for a few days, and he improved for awhile, but in a few days he got to vomiting again, and he had a very much larger tumor than in the first attack. I had him operated upon, and when we cut into him we found a mass of adhesions and exudate, and when we got behind it we found a lot of stinking foul pus. We put in a drainage tube and are draining out the pus. One thing his pulse is more rapid now than it was at first, 110-120. The wound has healed rapidly and the exudate has been nearly absorbed. He is gaining flesh and is freer from pain than he has been in six

months. But his pulse keeps up. Now what is the cause of it?

Next papers and their discussion. first subject, Epilepsy. Dr. J. A. Caldwell, essayist. The doctor did not have an paper, but gave us a good talk on the subject, which was very ably discussed by several of the members present. The other essayists on the program for the day were not present, and after a few more reports of clinical cases, the Society adjourned.

W. A. McKENNEY, Secretary.

Todd.—Todd County Medical Society met at Elkton Wednesday, May 4, 1910. House called to order by President J. R. Crittenden. Minutes of previous meeting read and adopted. First on program was report of clinical cases.

R. L. Boyd reported case of nephritis previously reported; patient still suffering, very nervous. Urine shows albumin, casts high specific gravity; treatment outlined.

J. L. Barker reported an interesting case of delirium tremens; trouble in getting patient to sleep.

W. E. Bartlett made suggestions in treatment when stomach fails to retain medicines.

Drs. Gowan and Riley also made suggestions as to treatment.

J. M. Robinson rehearsed case of pruritis vulvae in diabetic women, case previously reported now being well.

R. W. Fry reported case of lobar pneumonia in child 18 months old, followed by empyema. Now shows septic condition; will operate; make simple incision under local anaesthesia and drain. Nothing to be gained by delay in these cases.

J. M. Robinson reported case of woman who had chills two weeks after confinement, had muscular contractions. Very painful; gave morphine to relax. Trouble would recur every few days. Saw her two weeks later and gave hypodermic morphine, which failed to relieve and had to give chloroform; had rise of temperature every few days after chills stopped. Her jaws and neck would stiffen and I thought may be tetanus. Dr. Boyd thinks a neurosis; Dr. Barker says auto-intoxication.

R. W. Fry says puerperal tetanus; discussion closed.

Afternoon session. First paper read by J. L. Barker on diphtheria. Excellent paper, which brought out free discussion.

J. M. Robinson, first to discuss the subject though his experience has been limited to four cases only, gave one patient 3,000 units of anti-toxin and in three or four hours cast of larynx was thrown off. Thinks anti-toxin the greatest boon the profession has ever had.

R. W. Fry says the different points in diagnosis are the important points: believes in larger doses of the serum, 10,000 units.

J. R. Crittenden reported case treated in the county with calceidin; says it might have gotten well anyhow.

J. L. Barker suggests in all cases of laryngeal croup give all the fresh air possible, patient getting only limited amount and that should be the best.

There being no further business the meeting adjourned to meet at Trenton first Wednesday in June, with following program: Osteomyelitis, by Dr. Crittenden; Gastro-Enteritis, by Dr. Bartlett; Hook-Worm, by Dr. Mather.

L. P. TRABUE, Secretary.

Whitley.—The Whitley County Medical Society met at Williamsburg on April 27, 1910, with a good attendance present. Several clinics were brought before the Society and the cases furnished the Society were given much consideration and discussion by those present. Among those to discuss the cases were Drs. G. N. Richmond, L. O. Smith and S. S. Sullivan. Owing to the bad weather and small attendance at this meeting those who had papers will be instructed to read their papers at our next regular meeting. After the meeting we adjourned for dinner, and all left feeling that we all had been benefitted by attending the meeting.

B. E. GIANNINI, Secretary.

Warren.—The regular meeting of the Warren County Medical Society was held in Bowling Green Wednesday, February 9, 1910, in the Doctor's Club room. Five members were present and the usual program was carried out.

L. H. SOUTH, Secretary.

Warren.—There was no call meeting of the Society in March owing to the very inclement weather.

L. H. SOUTH, Secretary.

Warren.—The regular meeting of the Warren County Medical Society was held at Bowling Green, Wednesday, April 13, 1910, with F. D. Cartwright, President, and the following doctors were present: E. N. Hall, Rau, McCormack, Carlsen, Stone, Blackburn, Adair, Lewis, Cartwright, Francis and Briggs.

J. O. Carson gave a discourse on the efficacy of buttermilk diet.

A letter from the State Secretary was read calling attention to the services of Senator Oliver, Representatives Hines and Whitlow in all public health legislation. A committee of three were appointed to draw resolutions of thanks to our representatives and instructed the Secretary to mail each a copy.

J. O. Carson, Lewis, Stone, Cartwright and South were appointed to write a letter to our Congressman.

T. W. Stone, J. W. Lewis, J. O. Carson were

appointed to write to our Congressman and Senator urging them to support the Owen Bill.

J. H. Blackburn moved that a committee of three be appointed to draft resolutions regarding the revision of the Pharmacopeia. The President appointed Drs. Blackburn, Reardon and Briggs.

A. T. McCormack moved that a committee be appointed to consider public meeting to be held in each school district. The following committee was appointed: A. T. McCormack, chairman; F. D. Cartwright, J. H. Blackburn, J. W. Lewis, J. M. Adair, with the doctor in each district as assistant.

J. H. Blackburn substituted for Dr. Reardon and reported a case of gall stones. The gall bladder was opened and four faceted stones were removed, a drainage tube was inserted, which was removed on the eleventh day. Patient made an uneventful recovery.

A. T. McCormack gave a dissertation on the indications for operation in gall stone disease, which was discussed by all present.

Society adjourned to meet May 1, 1910.

L. H. SOUTH, Secretary.

Warren.—The regular meeting of the Warren County Medical Society was held in Bowling Green in the Doctors' Club room Wednesday, May 11, 1910. J. H. Blackburn, Vice President, in the chair, and the following doctors were present: E. Rau, Souther, Blackburn, South, London, Helm, McCormack, Huddle, Drake, Martin, Hall, Rutherford, Stone, Cartwright, H. R. Rodger.

G. E. Huddle exhibited a case with swollen knee with X-ray photographs, fluid present; patient was in bed for six months with fever; several ounces was withdrawn with aspirator and iodoform emulsion injected. The case was thoroughly discussed. Concensus of opinion was that it was a tubercular synovitis.

B. S. Rutherford read a paper on Early Diagnosis of Tuberculosis in Children.

W. P. Drake discussed the paper and thought tuberculosis was inherited to some extent.

T. W. Stone—Early diagnosis depends upon examination of sputum and when diagnosis is made early the cases can be cured.

A. T. McCormack reported a number of cases called septic bronchitis, giving history of profuse expectoration, physical signs with rales. No medication was of service except inhalations of eucosote. Uses turpentine hydrate in large doses when inhalations are not available. Large number of influenza bacillus were present in a majority of cases.

H. P. Cartwright said treatment had progressed rapidly in the last fifty years for our ability to diagnose cases has improved.

Children usually develop tubercular meningitis when nursing a tubercular mother.

BOOK REVIEWS.

A Treatise on Diseases of the Skin. For the use of advanced Students and Practitioners. By Henry W. Stelwagon, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Fifth Edition, Revised. Handsome octavo of 1150 pages, with 267 text-illustrations, and 34 full-page colored and half-tone plates. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

Dr. Stelwagon's work is conceded to be second to none, occupying a distinct position in the foreground of works on dermatology. Its excellence can be attested in no better way than by the fact that five large editions have been required in as many years. This success is undoubtedly due to the thoroughly practical grasp which Dr. Stelwagon has on his subject, shown in the clearness of his style and definiteness of his treatments. For this edition the entire work has been very carefully revised. The articles on Frambesia, Oriental Sore, and other tropical diseases have been entirely rewritten. The new subjects include Verugga Peruana, Leukemia Cutis, Meralgia Paraesthetica, Dhobie Itch, and Uncinaria Dermatitis.

Text-Book of Modern Materia Medica and Therapeutics. By A. A. Stevens, M. D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College, Philadelphia. Fifth revised edition. Octavo of 675 pages. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.50 net.

A Text-Book of Modern Materia Medica and Therapeutics. By A. A. Stevens, A. M., M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania. Octavo of 675 pages. Cloth, \$3.50 net; Half Morocco, \$5.00 net.

Just issued the new (5th) Edition. Thoroughly Revised.

Dr. Stevens's *Materia Medica and Therapeutics* is one of the most successful works on the subject ever published, the fifth edition having been brought strictly up to date by a very thorough and careful revision. The therapeutic section is not merely an expansion of the perfunctory and thoroughly unsatisfactory index of diseases, but a complete practical treatise. Indeed, it is here that some of the author's best work shows itself. Throughout the entire book there is evidence of extensive reading and judicial discrimination.

A Text-Book of General Bacteriology. By Edwin O. Jordan, Ph. D., Professor of Bacteriology in the University of Chicago and in Rush

Medical College. Octavo of 557 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$3.00 net.

Prof. Jordan's work embraces the entire field of bacteriology, and is the only work in English dealing with all the most prominent phases of the subject. The non-pathogenic as well as the pathogenic bacteria are considered, giving greater emphasis to the latter. A valuable feature is the colored illustration of the spirochaeta pallidum as stained by the method of Levaditi. Besides the bacteria of medicine, the author also presents the bacteriology of the various trades and industries, such as agriculture, dairying, leather tanning, tobacco curing, vinegar making, etc.; the bacteriology of foods, plant diseases, water, and sewage; the relation of bacteriology to household administration, to sanitary engineering, etc.

The Pancreas: Its Surgery and Pathology. By A. W. Mayo Robson, D. Sc. (Leeds), F. R. C. S. (Eng.) of London and P. J. Cammidge, M. D. (Eng.) D. P. H. (Camb.), of London. Octavo volume of 546 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

The progress made within recent years in the knowledge of the functions and diseases of the pancreas has been so rapid that a book dealing with this important organ has become a necessity to every physician and surgeon. This entirely new work has a distinct advantage of incorporating the results of the original investigations of these eminent authorities, whose work along these lines has been unusually successful. There are chapters upon Anatomy, Embryology, Histology, Physiology, Pathology, Symptomatology, and Injuries and Diseases, and there are special chapters on Chemical Pathology and Diabetes. Pancreatitis is very fully treated, as are also Pancreatic Calculi, Cysts, Neoplasms, etc.

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ORIGINAL ARTICLES.

PATHOGENIC BACTERIA IN THE URINE.

BY E. S. ALLEN.

The value of urine as an aid to diagnosis is so universally recognized that an examination without it is considered incomplete.

We recognize the kidney as the avenue of exit of the greater part of the debris of retrograde tissue change; so the products of the urine, coming as they do from every tissue and organ of the body, must, if studied close, be of great value in determining pathologic changes as they take place.

Believing that it is the tendency of many of us to consider sugar, albumin and casts, as the most serious pathological signs to be found in the renal secretions, and that too little importance is attached to the bacteria that we find, has stimulated some personal investigations along this line.

In over three thousand specimens of urine examined microscopically, and over a thousand centrifugalized specimens stained, and cultures grown from more than five hundred, the number of pathogenic bacteria that I have been able to demonstrate, leads me to believe that we are overlooking diagnostic factors, if, when we have determined whether or not the albumin, sugar, or casts are in the urine, we consider that the analysis is complete; and even when a few pus cells are seen, it is the rule to consider them, especially when the specimen is from the female, as only accidental contamination and, of course, of no significance.

Time after time have the typhoid, tubercle, colon and diphtheria bacilli, staphylococci, streptococci and diplococci, been

found in the urine; so that when more than an occasional pus cell is seen, or when the urine is cloudy, and is not uratic or phosphatic, it is the duty of the microscopist to determine whether or not bacteria are present and, if so, by culture and staining, demonstrate their pathogenic class.

In looking up the literature on this subject, ease after ease attracted my attention where the patient had gone for months and years, with little or no light on the etiology of the condition from which they were suffering, when, if the urine had been examined with reference to its bacteriology, a great deal of information could have been derived and frequently the pathology remedied. One ease especially attracted my attention. A girl between 15 and 20 years of age had been operated on for appendicitis, and the appendix found to be normal. The symptoms persisted. The right tube and ovary were removed and, at a later operation, the left tube and ovary, and still the patient complained of pain in the right side. Finally, the left kidney was explored with negative findings. The patient did not improve. Then a thorough and systematic bacteriological examination of the urine was made, and tubercle bacilli were demonstrated. A catheterization of the ureters showed that they were coming from the left kidney.

We have long since realized that bacteria find an atrium through abraded or devitalized epithelia, either of the gastro-intestinal tract or cutaneous surface, and we demonstrate them in the blood, where, sooner or later, they are destroyed by the natural protective enzymes and cells of the body.

If the bacteriolytic forces are below normal the bacteria increase rapidly in the blood, and a bacteriemia results; the same condition as permitted an accumulation of

the micro-organisms in the blood, together with bacterial toxins, has in all probability resulted in certain degenerative changes in the parenchyma of the kidney, the bacteria making their appearance in the urine.

It is an established fact that micro-organisms are constantly passing into the animal economy from the intestinal tract and skin, even under practically normal conditions; whether the germs become active and subsequently lead to disease, depends upon other factors. As a rule the tissues of the body are able to cope with the germs and render them innocuous, provided they are not too virulent or in too great numbers. It is on this basis that we account for the so-called cryptogenic infection with which we occasionally meet. We need only some factor which increases the virulence of the bacteria, or depresses the vitality and resistance of the protective cells of the body to render such infection possible.

Adami was able to show that diplococcus-like micro-organisms were to be found in the kidneys in chronic Bright's disease and other conditions, most frequently seen in the convoluted tube, showing that the excreting cells of the kidneys have phagocytic properties, but when their vitality is depressed, the germs pass through uninjured, or temporarily devitalized.

The body can dispose of enormous numbers of bacteria (proved by injection) without their appearing in the urine, but when they do appear, the time of their appearance and the substances that appear with them lead to the presumption that the renal epithelium has been damaged.

In studying the bacteriology of the urine, I would not attempt to make a differentiation between bacteria and pus coming from an inflammatory lesion of the urinary tract, and true bacteriuria, where the germ lives in and upon the urine and not upon the tissues of the bladder and kidney, because the germs in typical bacteriuria, though symptomless so far as the bacteriuria is concerned, when the urine becomes alkaline through chemical changes, a deposit of phosphatic gravel takes place, which causes renal and vesicle irritation.

When bacteria are found in the urine they are either of endogenous or ectogenous origin, and in eighty per cent. of cases the offending micro-organism is the colon bacillus. Of course, we do find, and not infrequently, all of the common pyogenic micro-organisms. It is generally easy to trace the origin of the infection when it is of the ascending type, the proximity of the urinary tract to the rectum and vagina and the passing of instruments accounting for the major-

ity of infections; hence, the high percentage of colon bacillus findings.

The endogenous type is a little more difficult to trace, the bacteria arising in some other part of the organism, pass into the urine, by the migration of bacteria from an infected organ in close proximity to the urinary tract, or what is known as contiguity of tissues. Bacteria circulating in the blood get into the urine by the excretion of the kidneys, whether they come from some focus of infection distant in the body or whether the bacteria and the blood as the result of a lesion of the epithelial barrier.

Bacteria frequently get into the urine through the lymphatic tract, leading from the prostate, seminal vesicles and bladder, as they connect directly with the lymphatics along the course of the ureter, which, in turn, connect with the lymphatics of the hilum of the kidney, and these with the subcapsular network around the kidney, which likewise sends branches into the cortex of the kidney and into the fatty capsule surrounding it. So, with a prostatitis, we may have the following sequence: cystitis, ureteritis, pyelitis and suppurative nephritis.

The most important pathogenic bacteria appearing in the urine are the typhoid, colon and tubercle bacilli, streptococci, staphylococci and gonococci.

TYPHOID BACILLUS IN THE URINE.

It has lately been demonstrated that a person recovering from typhoid fever may carry in his body for months and years, virulent typhoid organisms, and continue to infect the community. There is no doubt that many a case of typhoid fever has originated in the public swimming-pools as a result of urinary contamination. Karl Connel, of Columbia University, out of fifty cases of typhoid fever convalescing, demonstrated typhoid bacilli in the urine in eleven cases, and collected statistics from 621 cases, 150 of which showed typhoid germs, or about 24 per cent. Connel says that the bacilli are usually found in enormous numbers in convalescing typhoids. Petrusky found 172,000,000 and Gwyn 500,000,000 to one cubic centimeter.

Observation goes to show that the bacilli invade the urine in the declining stage of the disease at about the time when the temperature reaches normal.

All of the investigators have observed that the bacilli usually persist in the urine for several weeks, and disappear spontaneously; however, a considerable portion of cases continue along the ambulatory stage, sometimes for years, rendering the patient a menace to public health. Roussig examined sixteen German soldiers returning from the siege of Peking six months after their attacks of typhi-

phoid fever, and found the urine of one swarming with typhoid bacilli. Houston found typhoid bacilli present in the urine of a patient after three years. Young reports a case he had followed for two years, who had for seven years had a typhoid bacilluria; and Liebrau reports one case who, after nine years, showed bacilli in the urine.

The theory offered for this bacilluria is that the urine, having become infected by a few bacilli from the blood, serves as a culture media. Of course, infection does sometimes occur through the urethra by the infected catheter. Connell offers as an explanation of the late appearance of bacteria in typhoid urine that, during the febrile stage, metabolism is much increased and the nitrogenous output is excessive; hence, the high acidity due to the increase of organic acids, which renders the urine less suitable as a culture media, while during the convalescing stage the cultural conditions are improved by the dilution of the urine and the low acid output. If in the urine, which is a good culture media at this stage, the bacterium appears, it proliferates rapidly, especially if there be a trace of albumin. There is no doubt in my mind that the over-distension of the bladder which occurs in typhoids, especially of the delirious type, has to do with bacilluria, because the over-distended, weak muscle is slow in regaining its tone, and a residual urine is the result; hence, the bladder is never completely emptied, and I do not think there is any doubt but that those cases of persistent bacilluria can be accounted for on the basis of a residual urine as a culture media and focus of continuous infection.

Observers state that the bladder epithelium is very tolerant to the typhoid bacillus, possibly because the bacillus does not markedly alter the reaction of the urine, nor tend to invade the bladder wall.

Though typhoid bacilli are found in the urine of about one-fourth of convalescing typhoids, rarely are there any complications. Vincent, in 1,200 cases of typhoid fever, noted only two cases of acute cystitis due to the typhoid organism coming on in convalescence. Rousig reports a case of acute cystitis caused by the typhoid germ, which lasted for two months, causing the death of the patient. Brown and Young also report a few cases of cystitis caused by the typhoid bacilli. Dr. F. W. Murphy, of New York, reports a case of pyonephrosis recently operated on by him, which contained the typhoid germ in pure culture.

THE VIRULENCE OF TYPHOID BACILLI IN THE URINE.

Horton Smith found the bacteria occur-

ring in the urine to be as toxic to animals as ones from the feces or blood.

Bacilluria is of little diagnostic value, occurring, as it does, in the convalescing period; however, in typical cases of typhoid and nephritis, the demonstration of the organism in the urine is of much value. The bacillus is of little or no inconvenience to the patient, as complications are rare, but a great menace to the public, principally because the feces have been looked upon as the chief source of infection, and everything that is contaminated with feces is immediately destroyed, while little attention is paid to urinary contamination; yet the greatest menace to the public has been when the typhoid is up and about, and is no longer considered as a source of contamination.

The bacilli have been demonstrated in the urine long after they have disappeared from the feces, though there are instances where the gall-bladder is the harbor of infection, and continues to pour typhoid germs into the alimentary tract.

As prophylactic medicine is one of the medical man's first duties, I believe that every physician should see that his typhoid patients are not germ-carriers and scatterers, and a menace to public health. The patient should not be discharged until the urine is free from typhoid germs.

COLON BACILLUS.

Rostoki makes the statement that eighty per cent. of infections of the urinary tract are due to the colon bacteria. This is especially true in children and women. Wreden found that, by injecting colon bacilli into the rectum after traumatizing it, colon bacteria could be recovered from the urine in the bladder. He also demonstrated by the microscope that oil and vaseline can be transmitted directly from the rectum into the bladder. Geraghty reports several cases in which a careful microscopic study of the strained prostatic secretion failed to reveal any organisms. A bacteriuria shortly afterwards developed. He also reports a case of nocturnal enuresis in a boy fourteen years of age, in whom there was no development of the prostate and no sign of inflammation. A myocystitis developed following a light massage. It is probable in many instances that infection can come directly from the rectal mucosa, possibly the result of some injury to the mucous membrane or lymphatics.

Wreden made a series of experiments on male rabbits, in which he injured the rectal mucosa by means of an irritant, or by scraping off epithelium, and he found that the rectal lesions provoked a cystitis only when the lesion was situated at the level of the prostate or higher. Lesions lower down had

no influence. The organisms found in the bladder are those usually present in the intestines. Bacteriological researches of Young, Stevens and Geraghty have shewn that occasionally, even when the prostatitis is primarily of gonorrheal origin, secondary invaders may be present in the prostatic secretion. It was upon this basis that Young practiced vesical irrigation following massage of the prostate, for the bacteria forced out into the prostatic urethra were probably the starting point of a bacteriuria or even cystitis.

Young recommends, as a precaution in the treatment of the prostate by massage, that the secretion should be stained and carefully studied for organisms before systematic treatment is instituted, and during treatment microscopical examination should be resorted to to determine whether or not invaders from the rectal mucosa are present.

Barnard believes that every attack of constipation sends myriads of colon bacilli through the kidneys; but unless there is some trauma, irritant or congestion, the bacteria are passed off without so much as multiplying in the urine. It is believed nowadays that the spontaneous infection of patients with enlarged prostates is due to absorption of colon bacilli from the intestines as the result of constipation; hence the great stress laid on keeping the bowels of prostaties clear in order to avoid this possible source of danger.

Lancien (Paris) believes that the urinary disturbances frequently seen in cases of appendicitis are often due to the presence of colon bacilli in the urine. Flexner has called attention to the fact that chronic Bright's disease and uremia are often complicated by terminal infection with the colon bacillus; hence the necessity for careful attention to the intestines in patients with nephritis. Colon bacilli in the blood in sufficient numbers to produce nutritional disturbances must of necessity be found in the urine also.

The kidneys are usually the first organs of the urinary tract infected when the general circulation contains bacteria absorbed from some primary focus, such as the intestines, etc. From the kidneys as starting points, there may be descending infection of the pelvis, bladder, etc. Lastly, the kidney may be primarily infected by the direct extension to it of an inflammation in the colon.

Janet reports a number of cases of bacteriuria resulting in muco-membranous enterocolitis. Dr. Lippe, of St. Louis, states that, in acute febrile disturbances in infancy, not accounted for by gastro-enteric or respiratory infection, especially in the female, the urine should be examined for the colon bacilli;

also, that atypical fever cases may prove typical by making a urinalysis, and that in cases of high temperature, if physical signs of pneumonia do not develop, look to the urine for diagnosis, and that enuresis in children may mean cystitis or cystopyelitis; and that chills and fever with negative findings as to malaria, in the presence of a leucocytosis, calls for an examination of the urine in a search for the colon bacillus. A number of observers have isolated colon bacteria from the blood of children sick with intestinal diseases. Trumpp examined the bladder contents of seventeen children who were ill with follicular enteritis. In nine girls and five boys he found colon bacilli in the urine.

Box, in discussing the urinary bacterial infections in childhood, considers a common cause of bacilluria to be an ascending infection. The commonest infection is that of the colon bacillus. This bacillus is frequently present in the urine of children suffering from thread-worms, which suggests that scratching may be in part the medium of infection. The clinical manifestations of infection of the urinary passages in childhood may be pyelitis, or incontinence of urine without any local evidence of inflammation. Box states that the possibility of the presence of pyelitis should always be borne in mind in dealing with cases of obscure fever in childhood of whatever character. Cystitis of a more or less acute character is not at all uncommon in childhood. Box thinks that the co-existence of bacilluria, with the presence of parasites in the bowel, suggests that the worms may be in some way accountable for the urinary infection, acting as carriers of the bacilli from the anus to the vulva. Some observers are of the opinion that the beneficial effect of circumcision in certain cases of incontinence of the urine in the male, is not so much due to the removal of the mechanical irritation, as to the abolition of a nidus of bacillary infection; however, in some of the most inveterate cases of bed-wetting, the urine is found turbid with the presence of millions of colon bacilli.

The frequency with which colon bacilli are found in infections in various parts of the urinary tract is shown in the following tables:

Cystitis: Kruger found colon bacteria in 16 out of 20 cases; Morelle, in 13 out of 17; Denys, in 17 out of 25; Melchior, in 24 out of 35; Douglass, in 14 out of 20; Brown, in 31 out of 60; Schmidt, in 60 out of 73; Rostoki, in 80 out of 120. Total, 255 out of 370 cases, or 69 per cent.

Pyelonephritis: Albarran found colon bacteria in 15 out of 33 cases of ascending pyelonephritis; Schmidt, in 12 out of 15;

Savor, in 13 out of 19. Total, 40 out of 56 cases, or 71 per cent.

Infections of the whole urinary tract: Escherich found colon bacteria in 58 out of 60 cases; Brown, in 38 out of 80. Total, 96 out of 140 cases, or 68 per cent.

Arthur L. Chute calls attention to the lack of symptoms in suppuration of the kidney and kidney pelvis. He reports forty cases of suppuration of the kidney in which eleven per cent. presented neither pain, renal mass, tenderness, nor casts. He lays stress on the fact that in suppurations of the kidney and kidney pelvis, but one sign is always present; that is turbid urine; and the next most frequent sign, present in 85 per cent. of cases, is a disturbance of micturition. He states that there is a considerable proportion of renal suppurations in which only these two signs are gotten, and lays stress on microscopical study of the urine for bacteria.

There are certain characteristics of the colon bacillus which are noteworthy, and which in some degree explain the clinical manifestations of the infection. It is an organism which, although it grows by preference in alkaline or just neutral media, can also grow in acid urine, and it is not easily got rid of by altering the urinary reaction. The acidity of the urine is inimicable to many of the microscopic infections; hence the bacillus coli is often found in pure culture. In the second place, it does decompose urea and give rise to ammoniacal products which have a destructive influence on the urinary epithelia, and usually co-exist with the more severe forms of colon inflammation. Writers on this subject remark with surprise that in urinary infections due to the colon bacillus, vulvo-vaginitis is seldom present; stress has also been laid on the fact that in colon cystitis and colon pyelitis, the inflammation, as a rule, is of a very superficial or catarrhal nature. Lastly, the organism is motile, and so may, without the assistance of urinary stagnation, make its way into the pelvis of the kidney.

DISCUSSION.

Henry Enos Tuley: I have found that, in a good many cases of obscure febrile conditions in childhood, examination of the urine will clear up the diagnosis. Pus in the urine, associated with renal epithelia and bacteria, should lead to diagnosis of a pyelitis.

I have here a very interesting temperature chart prepared from a case to which I wish to call your attention for a few moments.

This patient was a female, 1 year of age, in good general condition. Had whooping cough during the summer, with tendency to paroxysmal cough at present, especially when any catarrhal symptoms of throat or bronchi exist.

Slight temperature was noted during the night of October 30 with considerable restlessness. After being dressed in morning was taken suddenly with a mild convulsion, and when seen first by Dr. Anna F. Lawrence, through whose courtesy I was enabled to watch the progress of the case, there were rhythmical contractions of legs and arms, and general cyanosis, rapid pulse and great prostration.

Examination of the chest at this time showed very high pitched breathing over the right apex anteriorly, temperature 103, pulse 140, respiration 70. During the day, as can be seen by the chart the temperature gradually rose to 106. A cool wet pack was tried for its antipyretic effect, but much to our surprise it caused such prostration and cyanosis that it had to be removed and active stimulation instituted.

A preliminary purge brought several ugly looking dark, mucous movements, which continued several days.

On November 1st the first suspicious area in the anterior part of the lungs had cleared up, and there was distinct bronchial breathing over the right apex posteriorly. Owing to the wide fluctuation of the temperature the possibility of a complicating pyelitis was suspected, and after considerable perseverance a specimen of urine was obtained for examination and a large quantity of pus found present, with some albumen. He was at once put upon urotropin, with the result as shown by the chart. The wide excursions of the temperature ceased, and the resulting curve is that of an uncomplicated lobar pneumonia, with the crisis occurring on the ninth day. A feature of the pulmonary condition was the persistence of the bronchial breathing for several days after the crisis. On the sixth inst. in addition to a few pus cells, much less in quantity than in previous samples, the urine was loaded with an actively motile bacillus which gradually decreased in number each day.

The presence of an irregular temperature of that description should always make one suspicious of pyelitis. I believe pyelitis in infancy is more frequently unrecognized than any other condition we have to deal with.

During pregnancy sometimes a week or two weeks, or perhaps a month before delivery the patient will have a chill and elevation of temperature, which will be diagnosed as malaria, or may possibly go untreated. During the first week or two of the puerperium the patient will be entirely normal and then develop a temperature, which will perhaps be thought to be due to infection through the pelvic organs. Examination of the urine will clear this up. I have under observation at the present time, a woman who was delivered five weeks ago. For two weeks past she has been having chills, fever and sweats. A specimen of her urine was examined today and found to be loaded with pus and

motile bacilli, which I took to be of the colon type.

This is one of the most important subjects that we have had brought to our attention for a long time. It is a fact that we can clear up obscure febrile conditions especially in infancy, but also in the puerperin, by examination of the urine. I do not think we ought to treat a case of fever during the puerperium without first examining the urine thoroughly and carefully. Too frequently examination is made for albumin and sugar and microscopical examination is neglected. In puerperal cases the urine should be catheterized and examined microscopically.

J. T. Dunn: About a year ago I had a case which I diagnosed as pyelitis and Dr. Hays made analysis of the urine for me and found the infection to be due to the colon bacillus, as a result of infection by use of catheter. I want to say that the effect of vaccine in this instance was especially prompt. I think it was Dr. Frank who suggested the use of vaccine in this case and I was very much pleased to see the symptoms entirely disappear. This patient was sent to the infirmary here after having suffered at home for three or four months with the symptoms which Dr. Tuley had just described, chills, sweats and high temperatures. He had become very much discouraged and thought he was going to have tuberculosis. He came here and a thorough search of his urinary organs was made for the cause of the trouble, and the urine was found to be loaded with pus and full of colon bacilli. He was placed on Bulgarian buttermilk and colon bacillus vaccine administered; the symptoms promptly cleared up.

Carl Weidener: I have enjoyed the paper very much indeed. If the essayist has done nothing more than draw our attention to the fact that obscure fevers in children are often caused by trouble in the urinary tract, and also to the fact, which we all ought to recognize, that in the prophylaxis of typhoid we must destroy the urine, he has done a great service. Dr. Tuley has taken his remarks from my own mouth in regard to obscure fevers in children. In the clinic of Professor Heubner, which I had the pleasure to attend, he showed a case which brought out very clearly the point that, where we have a child with fever which cannot be explained on any other basis, we should also make a thorough examination of the urine. The case he presented was a child who had fever due to cystitis, caused by the colon bacillus. It may be well to say right here that, in seeking the cause of a cystitis, we should look, not only for haematogenous infection by the colon bacillus, but for direct infection through the urethra, especially in female children. We should bear in mind that normal urine, passed into a clean vessel, is practically sterile, and whenever we find

a large amount of various bacteria in urine which has been freshly passed into a clean vessel, we should investigate the urinary passages. In the male bacteria in the urine are very common on account of urethral diseases. In women leucorrhoea is the most frequent cause. Therefore, we should use every possible precaution in securing the urine, even resorting, if necessary, to catheterization.

B. J. O'Connor: This subject is one of particular interest to me, for the reason that I have examined probably 1,800 specimens of urine in the past two years, and have myself gone through a typhoid attack. During the febrile stage of this attack, I was catheterized about twice a day, and an intense urethritis developed. I recovered from the acute symptoms of cystitis, and four weeks later developed an epididymitis which one doctor suggested was tubercular. Fortunately, such did not prove to be the case.

One thing in regard to urinary infections is that we have ample preventative means at our command if we will only employ them. In all acute infections, particularly in childhood, whether it be scarlet fever, measles, diphtheria, or what not, I believe the use of urinary antiseptics is positively indicated. If you will use a urinary antiseptic from the beginning in a case of scarlet fever, you will not have acute nephritis following. My experience has led me to believe that a great many so-called cases of acute nephritis, or Bright's disease, are really acute inflammatory conditions with the formation of pus, followed by degenerative changes in the renal epithelium and the typical symptom complex of Bright's disease. One of the most striking features, if you will watch the urine, is the presence of pus, bacteria and necrotic epithelium, which you will always find in inflammatory conditions, due to the toxins liberated by the bacteria.

One more important point that I wish to speak to is that mentioned by Dr. Weidner, that is in regard to the cleanliness of the vessel into which the urine is passed, especially if the urine be that of a female.

Almost any one can make a more or less accurate urinalysis from a bacteriological standpoint, if he will take a bottle that has been sterilized and, with a perfectly sterile catheter, draw the urine directly into the bottle. If the specimen is not clear, you will know that it is not normal, unless possibly the reaction is alkaline, in which case a little acetic acid and heat will clear it up. When you have a freshly voided specimen of urine that is cloudy, it is abnormal, but whether the cloudiness is due to the presence of crystals, or bacteria, or pus cells, or epithelial cells, cannot be determined until the urine has been thoroughly examined.

Dr. Allen (closing): I became interested in bacteria several years ago. On numerous oc-

casions in the past two years, when specimens of urine were sent to us for examination. I have, for my own satisfaction, gone farther into the examination than was requested, and in a great many specimens I found at least the colon bacillus. Not long ago I received a specimen of urine in which bacteriological examination was not requested, but, upon finding pus cells present, demonstrated the colon bacillus, the staphylococcus pyogenes aureus and the staphylococcus pyogenes albus.

THE DERMATOLOGIST.

By M. L. RAVITCH.

About a year ago a fellow dermatologist in this city, diagnosed and treated a case of scarlet fever in a certain family. A furor was created. The family physician was real angry. How dare "the skin-man" diagnose and treat scarlet fever. The fellow dermatologist was severely criticised by many members of the profession. Though I would not treat scarlet fever or any other eruptive fever, it seems to me that scarlet fever belongs to the domain of cutaneous diseases as much as any other exanthemata. To my mind the trained eye of the dermatologist can detect a case of scarlet fever just as easy as the general practitioner and quicker too. The dermatologist has the same right to diagnose and treat a case of scarlet fever as a throat specialist a case of diphtheria. He has a right and is more than competent to diagnose and treat measles, variola, rubella, varicella, erysipelas and other eruptive diseases. But owing to certain customs I think it is ethical for a dermatologist only to diagnose, and leave the treatment of the above mentioned diseases to the general practitioner. The general practitioner should be more liberal and should call in the dermatologist as he calls in the eye-ear-nose-and-throat specialist. It is deplorable that the dermatologist is not recognized and consulted as he should be. I have seen many cases of urticaria, erythema and drug eruptions diagnosed as scarlatina, smallpox and even erysipelas. I recall a case of extensive secondary stage of syphilis diagnosed for smallpox. I had quite a time to convince several physicians of its nature. It happened in Lexington, Ky. Lupus and syphilis are often mistaken for each other by the general practitioner. Lupus is rarely more than single, syphilis is usually multiple; both are commonly free from pain and itching, but in syphilis the color tends from red towards brown, in lupus from red to violet blue; the scars of syphilis are depressed and pigmented, those of lupus hypertrophic and white; the edges of lupus are beset with nodules; those of syphilis are either thin

and smooth or indurated by chronic inflammation; lupus in a majority of cases is a disease of the face; syphilitic ulcers are found on the trunk and limbs.

Dr Boggess and Dr. Heim will remember a case of a child that was diagnosed by several physicians as smallpox. The child and nursing mother were sent to the pest-house and treated for smallpox for a few weeks. The child was a victim of bromide eruption. I had a hard time to persuade the mother not to bring suit against the physicians and the city.

Two cases of mycosis-fungoides were treated by the family physician for over two years for eczema. The patients got in a very bad state. That was perfectly legitimate and ethical. When I got hold of both cases the attending physicians were very much displeased. Many skin diseases are being misdiagnosed and mis-treated by the general practitioner, surgeons and other than skin specialists. This is legitimate. And why not? It is easy to prescribe patent ointments such as resinol, zewatol, exzemo and other patent salves, which are a panacea for all skin diseases.

It is unfortunate that the profession, particularly here, look upon the dermatologist from a comical standpoint of view. A dermatologist, as some think, is a cousin to Madame Yale. If so, why then should he be classified with the scientific physician who treats mycosis-fungoides for eczema? Many a time have I been called not only by the laity, but also by my fellow practitioners a "beauty doctor." If we rid a young woman or young man of a face-full of pimples and indurated bunps, we are not more "beauty doctors" than a surgeon who does plastic surgery. The skin-man, to my mind, must be a scientific physician. If you would only think and realize what relationship skin diseases have to internal organs, we would not classify the dermatologist with a beauty doctor. Let us take acne. The general practitioner treats it as a very slight ailment and regards it as a manifestation of puberty. The dermatologist looks upon it from a more scientific point of view and regards it as a more serious affection. The reason that it attacks those just reaching puberty is, that at this time of life the sebaceous glands are in the most active condition. But the chief factors are: anemia, menstrual disorders, stomach troubles and sexual psychoses. The human economy being weakened by either of these factors, is easily attacked by the bacillus acnes, which is the chief cause of acne vulgaris. The bacillus was discovered by Gilchrist of John Hopkins, and it is being confirmed by a good many other dermatologists. Some of you may say

that the bacillus is usually present in large numbers in the skin; but that would not weaken the cause of the casual relationship. An analogy is shown in a case of the tubercle bacillus and many other micro-organisms which are usually present in the human body, but which become pathologic and produce disease only under certain weakened conditions as named above.

So you can see that cutaneous manifestations are dependent upon manifold varied external factors of one kind or another which are certainly the *fons et origo* of skin lesions. Many examples of this kind may be enumerated. A single thing like urticaria has a great significance. Urticaria is not only a cutaneous manifestation of auto-intoxication, caused by stomach or intestinal trouble, but also by irritation from intestinal worms, psychic causes, malaria, jaundice and albuminuria and diabetes-mellitus. I have met patients with chronic urticaria, due to diseases of the uterus. Surgical operations have been the cause of urticaria. Surgical operations have been the cause of psoriasis. Fright, psychic emotions have been the cause of psoriasis. A patient with xanthoma, had been treated by a general practitioner for eczema. The patient went from bad to worse. The patient came to me. After diagnosing the case as xanthoma, a thorough urinalysis was made, the patient was told to adhere to a certain diet and take some medicine. "Are you also a doctor?" innocently asked the patient. I had to explain to the patient that a dermatologist is a legitimate physician and knows as little of medicine as the rest of the doctors do. How many times do we dermatologists see erythemas treated for eczema or for a discoloration of the skin that "does not amount to anything?" Skin lesions amount to a great deal. I have seen some neglected cases of erythema accompanied by some grave symptoms, such as sneezing, bleeding at the nose, laryngitis, bronchitis, intense sweating and mental disturbances. Simultaneously with erythema of the skin, red spots may appear in the mouth and pharynx from which the epithelium quickly disappears, leaving the parts raw and painful. Hebro says that in a woman who died while an eruption of erythema gyratum on skin, similar red rings were found in the small intestines. Osler has an analysis of 18 cases in which visceral lesions were associated with polymorphus erythema.

The same is true of purpuras and pigmentations and they are often passed off as insignificant. Purpuras and pigmentations are often due to enlargement of the liver and spleen. I remember a patient with an enlarg-

ed liver and spleen for three years had recurring attacks of purpura and urticaria of the legs. In haemachloromatosi there is sometimes a widespread destruction of the red blood corpuscles due to some unknown toxic agent, leading to a pigmentation of the skin and a deposition of the iron-containing pigment in the internal organs, and in time to cirrhosis of the liver and of the pancreas, and finally to diabetes, the so-called bronzed diabetes. Often a persistent eruption is an indication of some serious internal trouble. In the course of Bright's disease you will often find an eruption, roseolus in character; again it will only be erythematous; frequently you will observe a chronic dermatitis, which does not stop with the appearance of hyperemic patches but develops either into papules or into desquamation.

The diagnosis of typhus (seldom met in this country) can easily be established by the exanthem (typhus maculosis) which you can see on the abdomen and limbs.

From the above you can realize what a close relationship exists between skin diseases and internal organs.

How many physicians realize that a dermatologist must be a good pathologist. Take for instance eczema in its different forms. The general practitioner treats them all alike. If one proprietary salve will not do, another may help it. The dermatologist, confronted by a case of eczema, classifies it and treats the real cause. He knows its cause from the pathological and histological phases; he can tell whether it is of parasitic origin, chemical or mechanical irritation or of toxic or neurotic nature. You may say that we dermatologists don't cure every skin disease. Granted, that some cases can not satisfactorily or permanently be cured, until the pathological causes are modified or relieved. I admit that sometimes the origin, location and nature of skin lesions are beyond ordinary scouting and detection as some cases of urticaria and most cases of psoriasis. We dermatologists acknowledge our helplessness, but does the general practitioner cure all diseases? Is he even able to tell the causes of many diseases? The whole trouble with non-dermatologists is, that they regard the skin as only a covering of the body. If they would study the skin as dermatologists do, they would soon recognize that the skin is an integral part of the body, responding often and readily to the most varied influences arising within the economy. We see it in urticaria and some eczemas, purpuras and erythemas. Even the hair and nails, as a part of the skin, are influenced by the conditions arising within the human econ-

omy. An illustration: I had a patient who developed alopecia areata over the temple. The cause was traced to a defect in the eyes. After consulting an eye specialist, who corrected the defect, the hair came in beautifully in the bald spot. For the last few years there has been a noteworthy progress in dermatology, especially in research work. Great activity and general interest in this direction are shown by examination of the current medical literature. The discovery of spirocheta pallida, its etiological relation to syphilis and its revolutionary bearing upon the pathology of the disease, have stimulated a great many scientists to further investigation. The great Nieser, with self-sacrificing spirit, gave up a very lucrative practice and went to the distant tropics, and the home of the higher apes to further study that dreadful disease—syphilis. He has accomplished a great deal and we may expect some wonderful discoveries in the near future. A good deal has been accomplished in the study of cancer and leprosy. In 1902 Dr. Chas. Stiles found that the poor whites in the South were not willful degenerates but helpless invalids and that the cause of their condition was the uncinaria or hookworm, an intestinal parasite probably brought from Africa many generations ago. He demonstrated his discovery at the International Dermatological Congress held in New York 1907 and which I had the pleasure to attend. A great stir has been created lately in regard to pellagra. Pellagra has been known in Europe for centuries, and the first one to describe it was Dr. Casper Casal, of Overido, Sprin, in 1762, who called it "Mal De Rosa." He also called it "Lepra Scurbutica." In this country a good many cases have been reported, particularly those found in the insane asylum. Only for the last few years the disease has been recognized chiefly by dermatic and neurotic symptoms.

So you may see dermatology has made many strides in the last decade and it is a very important branch of medicine, and the dermatologists have done much to bring it into close relation with the principles governing general medicine. It is rather unfortunate that dermatology was scarcely recognized as a specialty in the South. No systematized instruction was given in any school of medicine. There was no special clinic connected with them and in our hospitals no wards set apart for the treatment of skin diseases. There was hardly a physician exclusively engaged in the practice of this class of affections. Times and sentiments are changing and I hope to see opportunities for the study and teaching of dermatology created. I hope to see our schools make every effort directed towards the foundation of laboratories de-

voted to research into essential nature of skin diseases. I hope to see our medical students of our schools take up its study after two or three years of laboratory work in histology, biological chemistry, pathology, bacteriology and all practical methods of microscopy. He will come thus prepared to apply this knowledge to the proper understanding of the wide pathological panorama which skin diseases present.

DISCUSSION.

Curran Pope: I rise, not to offer any plea for dermatology as a specialty—I think our distinguished friend has done that amply and ably—but, as I look over the audience and see a number of men practicing the various specialities I am inclined to think they will agree with me that, if these difficulties are met with in a specialty where the hand-writing on the wall is so plain as it is in dermatology, in other specialties probably the same criticisms might often apply; in fact, I don't know but what they may apply more particularly in nervous and mental diseases than in dermatology. This specialty is rather *terra incognita* to a great many, and the same theory which Dr. Ravitch has advanced in regard to a correct and full understanding in regard to dermatology, applies with quadruple force to certain lines of neurological and psychiatric practice. Take, for example, the group of symptoms that are **labeled** neurasthenia. Many of them are no more neurasthenia than the man in the moon, or the man on Mars; many of them are psychothemia, and there is a vast difference. Take the ordinary conception of hysteria. How many men in general practice, or who practice neurology as a side line, understand that the morbid dread or the "tie" is the manifestation of a morbid idea buried deep within what was once called the subconscious sphere? How many men have the time, or inclination, to make the tests of Tung, to follow out the work of Freud or his school in this direction. It requires time, it requires experience, it requires training, it requires that pathological knowledge which comes from long association with these cases. Just as Dr. Ravitch has said that a cutaneous manifestation may mean to the dermatologist a deep-seated, toxic, psychotic or neurotic reflex condition, just so to the neurologist or psychiatrist, a dream may be the starting point of an investigation of a morbid train that will lead him to the origin of the trouble, and it is interesting to note that, oftentimes, if the trouble is traced back to the actual starting point, we can relieve these patients by simply bringing up the morbid entity from the co-conscious sphere; bringing, as it were, the skeleton of disease and disorder out into the bright sunshine and looking it over.

Geo. B. Jenkins: While listening to Dr. Ravitch's paper, I was very forcibly reminded of

the custom on the part of various medical teachers to assure the student body that their particular branch is the one of greatest importance to them. That, I believe, is also the customary belief among the various specialists. The doctor has championed his cause so ably, and in the course of his remarks has hit upon so many points that we have all met with, that I for one want to plead guilty to having fallen into error in numbers of cases of dermatological conditions. Of course, we have various excuses to offer for our mistakes; one is, not having been taught properly. That is one excuse, but a poor one; we should be taught properly. We general practitioners realize the difficulty in making accurate diagnoses in various skin manifestations because of our failure to take into consideration cause and effect. I really believe that, if the acute exanthemata were not associated with such marked constitutional symptoms, we would fail in our diagnosis more frequently. We find there are cases in which we do fail, where the cutaneous manifestations are irregular and the other symptoms correspondingly so. We should realize that the more chronic and milder cutaneous conditions are all diseases of an underlying nature, either parasitic, due to some irritant, or come from some constitutional affection. I remember a case that our old friend, Dr. Larabee, had when I was a student. This was a small girl, who came to his clinic for a long time with a condition diagnosed as eczema. He would treat her for this eczematous condition and it would improve and get almost well, but immediately upon the disappearance of the symptoms of skin irritation, there would appear a sort of asthmatic condition which would persist until the eczematous condition appeared again, showing that the two conditions, whatever they may have been, were absolutely dependent upon some common factor, and we find in our every-day work that various conditions manifest themselves, not only upon the cutaneous expanse, but upon other tissues of the body as well.

Hugh N. Leavell: I think the doctor's remarks in regard to the average general practitioner and his relation to the dermatologist are, in the main, correct; but there are general practitioners and then some more general practitioners, and there are a few dermatologists and some more dermatologists. I doubt very much whether the general practitioner who is "on the job," as it were, is going to overlook the importance of the relation of various skin manifestations to internal diseases.

I am sure that there is a close relationship between almost any skin lesion and some constitutional disturbance. Take, for instance, the ordinary "black-head," which is so often brushed aside as of no consequence by the average man; still, it very often bears a marked relationship

to some internal disorder, and I am sure Dr. Ravitch will bear me out in this, and also in the assertion that many eczematous conditions are associated with malnutrition and disorders of various kinds, either systemic or local. The general practitioner who does not see the pathological significance of the cutaneous manifestations, is simply blindfolding himself. Take the ordinary cold, for instance, and note the marked relationship existing between the skin and the mucous membranes, and if it be true in this case, why is it not also true in toxemia, kidney lesions and intestinal disorders? One point in regard to wearing heavy underwear in this climate. I defy any man to wear heavy underwear throughout the winter without taking a "cold in the head." If you will wear underwear light enough to enable you to be comfortable in a room where the temperature is 72 F., and when you go out put on sufficient additional clothing according to the temperature outside, you will find that the mucous membranes will remain in a more healthy condition.

Geo. A. Hendon: This seems to be a sort of circular type of argument, like a little dog chasing his own tail; he never gets any nearer to it than when he started. The issue depends entirely upon the individual. I know some general practitioners who can recognize a skin lesion just as far as some dermatologists can.

No good can come to us from discovering each others mistakes and telling on each other. I would hate for some of my friends to tell all they know about me and I know I haven't courage enough to tell all I know about some of my friends. It seems to me we should take a broader and more charitable view of this matter. One of the evidences of wisdom in any man is that he recognizes his own limitations. He then knows what to undertake and what to refer. If a general practitioner knows in his own mind that he is competent to treat a skin lesion, or any other lesion, it is his plain duty to treat it. If he knows he is not competent to manage a given lesion, it is just as plainly his duty to refer the patient to some one who is competent. This is a question that each individual and his own conscience must decide. It cannot be settled by public debate.

C. H. Harris: What I dislike and deplore very much is that the general practitioner of this day, and especially in Louisville, seems to be a sort of "runner" for the specialist; a man who goes out and hunts up patients and then turns them over to some other man to treat. Now, I know very little about skin diseases, except in so far as the general exanthemata are concerned, but I believe that I can say, with all truthfulness, that I spent the first ten years of my professional life hunting up patients for somebody else; but, like Rip Van Winkle, I finally woke

up, got a good gun and went hunting for game that paid me a little more than I had received from the patients I referred to specialists during the previous ten years. I am going to do everything I feel competent to do. If I can do a little surgery (not, however, as some of my friends might do it) and pocket the fee, can anybody blame me for doing that which will benefit me and my family. If I can put a tube in a child's throat, why should I not do it? The result is the same. If I can examine the sputum for tubercle bacilli, why not do it? I do not think any one has the right to limit my work as a general practitioner. Of course, I would not attempt any extended abdominal surgery, but there are some things I know I can do; I have done them many times and have confidence in myself. I want to do everything I can to relieve suffering humanity and do myself a little good as I go along.

M. L. Ravitch (closing): Dr. Hendon has opened a question that is quite serious. He says: "Don't pay any attention to the specialist." I would like to ask Dr. Hendon a question and want him to answer it honestly and earnestly. How many lectures on skin diseases has he attended, and what does he know about skin diseases? Why is it that Dr. Hendon has a card in the Journal which reads: "Dr. Hendon, Practice Limited to Surgery"? Why does he limit his practice to surgery and why does he advertise as such to physicians? He thereby acknowledges that he knows surgery better than the general practitioner. However, it is not my object to jump on the general practitioner, but simply to make a plea for dermatology, which is recognized to a lesser degree than any other specialty. The average physician would be afraid to tackle a surgical operation, or an eye case, or a neurological case, but would fearlessly treat any skin case. Dermatology is practiced by any one; not only by the general practitioner, but also by the beauty doctor, by nurses, and by almost any one.

TREATMENT OF ACUTE RHINITIS.

BY GEO. A. ROBERTSON.

No line of treatment is efficient until the causes and the changes from the normal function are known. Perhaps, for this reason, most all our methods of checking a common cold fail so completely. But largely the greatest defect in the treatment rests in the lack of co-operation on the part of the patient.

Just an ordinary cold. Why do anything for it, for usually it gets well itself. The complications are not a part of the cold. To the patient's mind they are distinct diseases. To the physician, middle ear inflammation, ethmoidal, frontal, or antrum infection, disturbance of lachrymal apparatus, sometimes

orbital cellulitis, and changes in the meningeal tissues are all known to be complications of an ordinary bad cold.

There is a three-fold source of origin for a cold:

Chronic rhinitis.

Intestinal toxemia.

Exposure to cold or to irritants (dust or germ laden air).

Upon this foundation there can be easily superimposed the acute symptoms of rhinitis.

Treatment subdivides itself into: Preventive; the acute attack; the complications.

Along the lines of preventive treatment come all the measures that will bring the normal function of the nose to its greatest usefulness.

The nose is fundamentally a breathing organ. The olfactory sense a mere adjunct. There is little remark made upon the physiological activity of the nose. It is hard to realize the large area of nasal mucous membrane, or the effect upon the nose made by a constant flow of air. Now the space of each nostril is about two to two and one-half inches vertically, three to four horizontally, with an average width of perhaps three-fourths of an inch. The mucous surface of the nose is enlarged by three scroll shaped shell bones, hence the name turbinate. The mucous membrane covering these is loose, its submucosa filled with cavernous spaces which dilate or contract with the amount of blood flowing through the nose and by the radiation of heat, regulating the temperature of the respired air. Because of the more delicate bronchial and pulmonary membranes, the air must keep an even temperature whether it is July or November. The elaborate system of glands secrete mucus that is modified by the nasal epithelium, and this secretion covering all the nasal space, moistens the respired air, likewise relieves it of all dust and irritant elements. Under normal conditions, while bacteria are found in the nose they do not thrive or grow at all rapidly in this secretion. If then acute rhinitis is an infection, our natural protective has ceased to be normal in its function, for the healthy nose prevents such invasion. Now given auto-infection, intestinal absorption, a blood stream overloaded with waste material, and somewhere, evidences of this lack of elimination will come to light. Given a large amount of virulent infectious matter flying in the dust, the irritating impurities cooped up in poorly ventilated houses for us to breathe, the sudden chilling of the surface of the body and a tendency to rhinitis; how easy to develop an acute attack.

Let me here discuss the preventive treatment. In children the chief offender is the adenoid. It blocks the post nasal space, it

prevents nasal breathing, it engenders a narrow, pinched and undeveloped nasal passage, by lack of use, and by the fact, that the tongue can not spread the alveolar arches and widen the floor of the nose in the developing bone, because the mouth is always open. The pressure of the tongue upon the hard palate develops the width of the face. Then the adenoid also produces chronic swollen turbinates because the nasal secretions are dammed up in the meatus, they only can flow forward and the acrid discharges cause excoriations and eczema about the nostrils. These children take cold easily; to prevent this remove the adenoid and do it before the damage is done.

The adult was once a child, there was a period when the adenoid tissue probably caused trouble and was not treated. These now in more mature years suffer with chronic nasal inflammation, probably are still mouth breathers. Look in the nose, the turbinates hang upon the floor of the nose. In the meatus secretions accumulate, the thickened membrane crowds the narrow space. Any congestion or increased swelling presses the foldings of the mucous membrane against the septum and the blockage is complete. Next to the adenoid a deviation of the septum is the chief cause of obstruction and engenders chronic rhinitis. All these things result in a lack of ventilation, a sluggish circulation, a lymph engorgement and great susceptibility to change of temperature.

The treatment here is to prevent this blockage. To take up the excess of hypertrophy, not by destroying the mucus secreting surface, but by shrinking it up and lessening all irritation, especially by keeping a clear drainage system along the floor of the nose, and by correcting the deformity of the septum. Lastly, but perhaps, chiefly, improve the general hygiene. By elimination overcome the tendency to intestinal toxemia, teach the value of exercise, and preach strong the "out door life."

The acute attack: you know the symptoms, how can relief be given?

First, the cathartic, and while it is getting busy do two things: encourage the free ventilation of the nasal chambers. Brace up the motor system. To open the nose, a spray or a wash of alkaline solution clears the way. Use it warm every few hours. If the physician gives the treatment open the nasal passage with a 2% solution of cocaine; if the patient does it himself, give not cocaine, but $\frac{1}{2}$ % sol. menthol in albolene. Then followed by the alkaline wash, then the menthol spray again. When air flows freely through the nose the excessive secretion of mucus is lessened; the accessory sinuses are stimulated to

normal activity by the thorough ventilation; if this is shut off the air pressure in the sinuses decreases, there is increased congestion, more swelling of the mucous membranes, areas of bacterial activity springing up at those points where the normal nasal mucus, because of the interference, can not keep the surface clean. These conditions are the forerunners of sinus involvement.

To brace up the vasomotor paresis try in the drug line, aromatic spirits of ammonia or strychnia. Prescribe mild exercise to bring the blood to the surface of the body, try salt baths, a cold sponge after exercise, or an alcohol rub. Few people do anything but droop about when they have a cold. Exact a regular series of gymnastics; even older women or small children can take them, and demand its observance; also put the patient on a special diet. Too much food only hinders the effectiveness of any treatment. Following the exercise, and the rub or sponge, comes rest in bed. This I consider one of the most vital measures toward the cure; rest and warmth, then sleep. Many a case of pulmonary tuberculosis has taken its beginning from some trivial cold with no let up to the nervous system by relaxation. Could we put an ordinary bad cold patient to bed after a few simple exercises, a light diet, and plenty of sleep there would be a very small number of complications. When complications arise we have left the simple acute case of rhinitis behind. My subject does not consider their treatment. The use of vaccines has been disappointing in the sinuses where definite bacterial forms have been demonstrated, there is more reason to hope for reward, but where the nasal mucus is less antiseptic than normal, to stop the bacterial growth, cleanse, eliminate and stimulate the nasal chambers to normal activity, the infectious elements will then be harmless.

I advise against the routine use of adrenalin. It contracts the vessels, it opens the nose widely for a very short time, but the reaction, when the contracted vessels relax, is so great, the second state is worse than the first. When the nutrition of the nasal epithelium is below par why cut off more of its blood supply by the use of adrenalin. As to the use of opium or belladonna, is it not a make-shift? It checks secretions, but what is desired is not a check, rather the readjustment of a disordered function due to lack of elimination, why not bring about the natural by throwing off the excess waste, not tie up the toxins in the system by any of the drugs that lessen secretion. In conclusion the treatment of acute rhinitis resolves itself into a search for the predisposing cause, the why

of the lack of tonicity in the nasal mucous membranes, bring about a return of normal function and train the patient to habits of life that will make it permanent.

DISCUSSION.

Gaylord C. Hall: I do not know that I can add anything to this paper. The essayist has brought out all the points I had in mind and in such a way as to leave practically nothing to add. One thing that might be emphasized, however, is the fact that lots of colds are caused by over-eating. A familiar example is the man who puts on his dress suit, goes to the banquet, eats six or seven courses, possibly drinks some wine, and gets up in the morning with a general ache, stopped up feeling in his head and thinks he is taking cold. He has eaten heartily the night before, breathes vitiated air and possibly smoked too much. All this has caused congestion of the portal circulation. The backing up of the blood through the pulmonary circuit and consequent reaction operating upon the upper air passages give rise to the symptoms of acute rhinitis.

He has also a condition of sub-oxidation, for the average business man takes very little exercise and he should be taught to do so. The fact that a cathartic given in the early stages will often practically cure this condition is proof of these contentions.

A better means, and one which I always use in my cases, is to tell the patient to go to the gymnasium, work into a good sweat, and take a hot bath followed by a cold sponge, and I have found that in nearly every instance this will cut an attack short.

I think an essential feature in the treatment of this condition is that it be followed by a saline. As far as the constitutional treatment is concerned, it depends largely upon the development of the case. Hydrobromid of quinine, with aspirin and monobromide of camphor offers about as good a combination as any other. In the case of alcoholics, it is necessary as a rule to add a little capsicum to keep up the stimulation of the stomach which it otherwise gets from the alcohol.

As for local treatment, I think we can get far the best results from warm saline solution inserted in the nose with a medicine dropper with absolutely no force, and have the patient snuff it back and eject it out of the mouth, following that with an application of five to ten drops of a 10 or 15 per cent. solution of argyrol, which is antiseptic and very soothing, and does not produce the disagreeable sensation that the other silver salts do.

I think any preparation of adrenalin is bad. No matter how much it is diluted the reaction is always disagreeable. To my mind the only time it is justifiable is in the case of a public

speaker, or some one who has to deliver an address, and his nose is stopped up, and then give it in the form of suprarenalin or adrenalin ointment snuffed up the nose. This does not seem to cause as much reaction as we get from a watery solution.

I believe that the majority of colds are due to this toxemia, or intestinal condition, that I mentioned, and that very few of them are due to primary direct infection. Those cases of rhinitis which develop as the result of acute infection are the ones in which we get complications, such as sinus conditions, extension into the middle ear, etc.

In regard to preventive treatment, the most prolific cause of this condition in children is adenoid tissue; consequently, the best method of procedure is the removal of such tissue. In adults the corollary condition is a deflected septum. However, to take up the correction of those deformities and conditions which act as predisposing causes of rhinitis would take us farther into the subject than my limited time will permit.

CLINICAL CASES

A CASE OF DYSENTERY WITH DEMONSTRATION OF MOTILE AMEBA ON THE SCREEN.

(PRESENTATION OF PATIENT.)

BY G. S. HANES.

The patient that I present to the Society to-night and the one from whom these specimens of amebae were obtained was seen in our City Hospital with J. Rowan Morrison and H. Clay Hayes a few weeks ago. He is 37 years of age and a native of Montgomery, Ala. There is nothing about his family history that has any bearing upon his present condition except that his father has been similarly affected for an equal length of time. Neither is there anything concerning his personal history that relates to his present illness up to the time of his infection.

Eighteen years ago last July the patient's father was taken suddenly ill with intense cramping in the abdomen and in a few hours an acute diarrhea developed. He was quite ill for several weeks and for a few days his health was in a dangerous condition. He improved, however, and is now a conductor on a railway train in Alabama, but has had a clinical experience not unlike that of the patient who is now before us.

Three or four weeks following the father's initial illness the son became affected in very much the same way. In a few days after the onset of the disease his bowels acted from eight to fifteen times in twenty-four hours.

He had a great deal of tenesmus and passed blood, pus, and mucus with the fecal discharges. The patient states that he was unable to go on the streets for several weeks on account of the frequent desire to go to stool. He consulted various doctors and was given laudanum, bismuth, ipecac, etc., for his diarrhoea, but was only temporarily relieved.

The following October he came to this city and for some time was very much improved. Later on, however, he had a recurrence and from that time until the present his condition has been one of constant variations between the extremes of a mild diarrhoea and an annoying type of dysentery. He has always kept some agent on hand to relieve his griping and tenesmus. For the last three years he has taken laudanum and brandy as soon as he gets out of bed in the mornings. This gives him partial relief from the discomfort he experiences upon assuming the erect posture. For a number of years, however, it has been necessary for him to evacuate the bowels soon after getting out of bed every morning. The number of stools in twenty-four hours ranges between three and ten depending upon the degree of amebic activity.

Three years ago he was admitted to our City Hospital and was allowed to remain one week when he was advised that he had no trouble except chronic diarrhoea, for which he could take treatment at home and at the same time earn his own livelihood. Patient says he consulted many doctors, all of whom cast his case by lightly saying he had a chronic diarrhoea or dysentery. He says he is one of the important factors in establishing the fame of Squibb's Mixture, as he has taken many gallons.

He has never been so ill as he was at the time of his original infection. With the exception of the few first weeks he has been able to go about and work more or less the greater part of the time. His occupation has been that of performing various duties about kitchens and dining rooms of hotels and restaurants; the last few years he has been employed as a cook.

As to the diagnosis of cases affected with this type of dysentery you are all, no doubt, familiar with our method of euetting of the ulcers could be shown through the proctoscope for motile ameba. I wish to state, as I have said upon other occasions, that I have never seen a case of amebic dysentery that failed to have lesions in the lower bowel and which ulcers could be shown through the proctoscope when the patient was placed in the proper position. It is a well known fact that one of the characteristics of chronic amebic dysentery is its disposition to oscillate between active and quiescent or almost inactive states. When the amebae are producing symptoms

a grayish deposit covers over each ulcer in which are found the motile parasites. When patients are being actively treated either by mouth or locally or by both methods it is often difficult or impossible to find the active parasite. When amebic patients are fairly well nourished and they seek professional advice they are usually informed of the surprising fact that they have a chronic diarrhoea or dysentery without any assignable cause and that they should have at once more astringent and constipating agents for their relief. If the amebic patient has lost considerable weight, is anemic, feeble, and especially if there is any kind of a tubercular history that can be uncovered the patient is advised that he is a victim of tubercular infection of the bowels. If, however, the dysentery is more marked; the anemia, cachexia, emaciation and feebleness pronounced the patient in this case becomes a victim to malignant disease located somewhere along the course of the large gut. We are all guilty. Why not settle such cases accurately and without doubt, which can be done easily in almost every case.

Under the head of treatment of amebic cases there is room for inexhaustible discussion. No plan of treatment has proven efficacious in all cases. Some cases have failed to yield when various methods have been employed. Extravagant claims have been made by those who have practiced medication by the mouth and quite as much can be said about those who employ one form or another of local treatment. It is my personal belief that the effect of many drugs given by the mouth does much good in quieting the irritated gut and at the same time it may affect the reaction of the intestinal contents in such a way as to render it unfavorable for amebic propagation and development. Much more good, however, can be accomplished by local germicidal and cleansing agents. We have relied almost exclusively upon the use of ordinary coal oil as a local agent in the treatment of more than fifty cases that we have under observation in the past two years. It is a soothing agent to the irritated mucous membrane of the gut and can be introduced in larger quantities than any other liquid substance. The object in the local treatment is to get the remedial agent in contact with the entire lining of the large gut. If the bowel is not distended by the fluid the many folds in the mucous membrane, in which ulcers are present are not obliterated, therefore, the treatment must be ineffective. And, again, watery solutions may soon be expelled for the reason that they all irritate and excite peristalsis. A portion of an oil treatment is usually retained for

twenty-four hours or longer. We have not been using oil a sufficient length of time to determine fully its value in these cases as supposed cures have relapsed in two or three years.

The exhibition of the ameba on the screen to-night is an achievement of Dr. John E. Hays. We have made a number of efforts to produce moving ameba on the screen, but were not successful till a few days ago. He has arranged a series of lenses in such a way as to get the excellent effect you have just observed.

You have seen the ameba on the screen as it appears under the microscope except that it is magnified from an object about the size of a pea to one as large as a medium sized oyster. Ameboid movements could not be more clearly shown than he has just demonstrated in your presence. It requires no effort upon the part of one's imagination to see how easy such a seething mass of parasites could excite an ulcerative process in the mucous membrane of the bowel and continue such a pathology indefinitely.

DISCUSSION.

Bernard Asman: I have been very much interested in the case report and the admirable demonstration Dr. Hanes has given us. His treatment is, no doubt, about as good as any, although, as he says, all treatment seems to be unsatisfactory in these cases of amebic dysentery, so far as permanent cure is concerned. Of course, these patients improve, and we think sometimes that we have made them well, but in a short time they come back to us as bad, if not a little worse than before.

I, too, have used coal oil, but not in as large quantities as Dr. Hanes, nor as coal oil alone. It has been my custom, when I did employ oil, to mix it with olive oil in the proportion of one part olive oil to two parts coal oil. I believe, as Dr. Hanes said, that the good effects derived from coal oil are its solvent effects and possibly its lubricating effects. By mixing a little olive oil with it, I think we can keep it in contact with the parts where it is needed longer, and such great quantities are not necessary.

To the other points made by Dr. Hanes I heartily subscribe. In the beginning of the treatment of a case of this kind, I believe the patient should be put to bed, especially in acute cases; in chronic cases it is, perhaps, not so essential. Then, first, last and all the time, cleansing, irrigation. Instead of tannic acid I have thought that boric acid would do quite as well; perhaps tannic acid is more astringent, but scarcely that amount of astringency is necessary.

There is one agent that I have never heard mentioned in connection with these cases, but which I should like to speak of tonight because it seems to me of great value. I have been using

it empirically. I refer to carbonic acid gas. It seems to have an especial influence upon the amebae, to kill them quickly, and they will come away, as proven by physical examinations. Carbonic acid gas not only exercises a slight anesthetic effect upon the mucous membrane, and is therefore, valuable where tenesmus is present, but it also exercises a marked stimulating effect upon the diseased mucous membrane. It is valuable in other ulcerations of the mucous membrane as well as in amebic dysentery. I think I first began using it in cancerous ulceration of the bowel, to relieve the pain, and as a deodorant.

C. H. Harris: I would like to ask Dr. Hanes what he thinks of a local application of nitrate of silver, 15 grains to the ounce; also, whether or not the coal oil has any toxic effect after it kills the amebae.

J. B. Richardson, Jr.: I would like for Dr. Hanes to say in closing what is the present condition of the patient on whom he did appendicostomy a year or more ago, in which case I gave the anesthetic.

Dr. Hanes (closing): Gentlemen, I would not have you understand that amebic dysentery is not cured. I believe we have cured every case in which we were allowed to exercise our full judgment in its management. If we did not get a complete cure by treatment into the bowel from below we have done appendicostomies and in no such case have we failed to get a cure up to the present time. I do say that sufficient time has elapsed to insure us against possible recurrences. I can see no objection to mixing olive oil with the coal oil as suggested by Dr. Asman except that he is decreasing a more potent with a less potent agent when we are in the greatest need of the most effective agent possible.

In answer to Dr. Richardson's question concerning the patient he anesthetized for us a little less than two years ago and upon whom we did an operation, I will say that he took treatments from March, when the operation was performed, till the following November. He has had no treatments since and is now well, so far as we are able to judge.

I will say to Dr. Harris that, in my opinion, hydrastis is an excellent agent in catarrhal conditions or simple ulcerations of the bowel, but I do not believe it would be effective in amebic cases.

Cultivating ameba is a very difficult accomplishment. We have never been able to grow them with any degree of satisfaction.

AN INTERESTING MENTAL CONDITION. DANGER IN THE ADMINISTRATION OF POTASSIUM IODIDE WITHOUT A POSITIVE SYPHILITIC HISTORY.

BY MILTON BOARD.

Case, male, white, age 38, Bourbon County, Ky. Referred by V. E. Simpson and T. C. Evans.

Patient admitted to the institution on the morning of September 16th, at 2 o'clock, coming from Norton's Infirmary, where he had become suddenly very violent. Patient gave a history of being very nervous for some weeks, had considerable digestive disturbance and had been given the iodide in moderate doses by his family physician. After coming to the city he had been examined by Drs. Evans, Simpson, Bloom and Vance. He had a large ulcer on the forehead just at the edge of the hair. He was a very intelligent man and had no knowledge of having had syphilis. Patient was put on large doses of the iodide and within a few days mania developed. This mania was very violent in character and came on at night. During the day patient was considerably excited, somewhat hilarious, but was able to control himself. After going to bed self control was lost, patient became excited and had to be very closely confined; his memory was always good.

Treatment.—The iodide was completely withdrawn, elimination was practiced by skin, bowels and kidneys and patient restrained by keeping him in the house during the day and in a strong room. At night mania subsided in a few days and patient was discharged in a month cured. Strychnine and iron were given in moderate doses for two months. The ulcer, which had begun to heal while taking the iodide, continued to improve and was entirely healed at time of discharge. During the patient's stay in the institution a blood examination was made by Dr. E. S. Allen with a negative syphilitic reaction. The examination was not satisfactory to Dr. Allen, however, and patient left before another was made. On January 24th, three and a half months after being discharged, patient returned to the institution; his mental condition was as good as when he went home; his physical condition was better. He had returned for the purpose of consultation. Another blood examination was made by Drs. Allen and O'Connor, with negative syphilitic reaction.

I have reported this case because of its interest to me and in order to have some discussion on the therapy of iodide of potassium. Here was a case of a young man temporarily

insane. Were the symptoms due to the iodide, or did the drug relieve the symptoms? I have an opinion, but I don't know.

DISCUSSION.

Virgil E. Simpson: So far as the cause of the mental condition of this patient is concerned, my own opinion is that it is doubtful. However, I do not believe it is due to the drug he is taking. A careful inquiry into the history reveals the fact that, for several months previous to his coming to Louisville for treatment, he had had mental elapses, at intervals, of a peculiar nature. One of these which he described very clearly (and which description was later corroborated by his wife), consisted of an irresistible inclination to follow his wife about the house.

I think the administration of the iodide had absolutely nothing to do with his mental disturbance. I have never seen or read of a case of mania so produced. The amount of iodide he was given in the interval between the time he left the city and the time he returned was very small; not more than thirty grains a day, and I think the total amount given him at any time was less than 60 grains a day.

One interesting feature of the case was the pulmonary condition which presented itself between the first and second examinations. Von Pirquet's cutaneous test was made and the reaction was positive. I do not mean to say that a positive reaction under Von Pirquet's test is positive evidence of a present tubercular involvement; still, in my observation, it has been fairly satisfactory as a diagnostic aid.

I do not believe, as stated by Dr. Board, that the patient was well when discharged. Physically he was materially improved and his mental condition was decidedly better, but the man has an expression of countenance that, to my mind, is not normal, and I believe that sooner or later further disturbances along the same line will manifest themselves.

Curran Pope: I regret, first, that Dr. Board has not given us a more detailed history of this case. If he is correct in his interpretation of the case as a mania, then this is merely an episode in the man's history. Mania and melancholia are, as we know, simply the rise and fall of a wave line above and below an assumed normal line. Modern German and Austrian schools teach that a maniacal attack marks the rise, and is nearly always followed by a corresponding depression, or fall; in other words, an attack of mania is nearly always followed by an attack of melancholia, even though it may be in a very modified form; therefore, in order to clearly understand these cases, we must take into consideration the entire life history of the patient, which will show the varied risings and fallings above and below the assumed normal line. So, in Dr. Board's case, if this was an attack of mania,

then I say it was merely an episode in the history of the man's life. If the man has tuberculosis, I am inclined to believe that the iodide of potash would have had absolutely no influence, insofar as the drug itself is concerned; but I do believe that an attack of mania may be precipitated by the toxemia that is frequently present in the tubercular cases. That tuberculosis and nervous and mental diseases are exceedingly closely related, I think no student of psychiatry will deny. When I was a resident physician at the Lakeland Asylum, we did many autopsies and found many tuberculous cysts, both in and out of the nervous system. These tubercular conditions may alternate; in other words, the present generation may be tubercular and the next insane, and *vice versa*. In this case it appears to me that there was a correlation between the tuberculosis and the attack of mania, rather than between the drug administered and the attack. My observation has been that iodide of potassium, instead of producing maniacal symptoms, produces just the reverse, depression, asthenia and varying toxic conditions. I have never seen a case of mania that I believed could be ascribed to iodide in any form. I am sorry the doctor did not express his own opinion.

Milton Board (closing): A very close relationship exists between tuberculosis and the various forms of mental disturbance. The fact that we see so many cases of tuberculosis, as revealed by autopsies held in asylums, etc., is not entirely due to this kinship, but also to the environment of these patients after confinement in eleemosynary institution; in other words, if you would go to the various penal institutions about the country and make autopsies, you would find quite as many cases of tuberculosis as in insane asylums, the reason being that the character of life they lead within prison and asylum walls is extremely conducive to pulmonary trouble. I am glad to say that, in Kentucky, this is less true now than it has been in years past, for the reason that patients are now kept in the open air much more than formerly, and right along that line I wish to call attention to conditions existing at asylums for the insane at Lakeland and at Hopkinsville. The latter is located two miles from a small town, and during Dr. Rodman's term as Superintendent there, he inaugurated the custom of requiring all patients, no matter what their mental condition, to take as long walks as their physical condition permitted. These patients walk over all the roads throughout the county, and no objection to this is offered by the inhabitants. At Lakeland the same thing was practiced until some years ago; when that neighborhood became a very fashionable residence district, an injunction was sought and obtained against the continuance of the custom.

I do not know whether this has anything to do with it or not, but the percentage of mortality at the Lakeland Asylum is almost double that of the Hopkinsville Asylum.

In regard to the case under discussion, I can but believe that the mania (I call it mania because of the violence of the manifestations) was due to the administration of iodide of potassium. In the first place, while this patient may have been suffering from pulmonary tuberculosis, it was not very far advanced, his general appearance being that of a fairly healthy man, and his physical condition was very much improved over what it was a few months ago. The fact remains that the mania came on while he was taking large doses of iodide, and cleared up when the iodide was withdrawn and active elimination secured.

Iodide of potassium is a powerful drug, powerful for good if the patient has tertiary syphilis, and powerful for evil, perhaps, if he has not that disease.

ACUTE PANCREATITIS; EXHIBITION OF PATIENT; REPORT OF FIVE OPERATED CASES.

BY LOUIS FRANK, LOUISVILLE.

Case I.—The patient, Dr. H. G., is probably known to many of you. I saw him first on the 23rd day of May and obtained the following history.

On May 19th he was seized with acute pain extending over the entire abdomen, which was somewhat relieved by colon irrigation. Several days later it was noticed that he was developing a mass in the epigastric region, which was not painful except when the intestines were distended with gas, at which times he complained of pressure of the gas against the obstruction. The abdomen did not increase in size after the appearance of this tumor. The area directly over the appendix was more painful than over the rest of the abdomen; also, over the gall-bladder the pain was more acute. He had never been jaundiced or suffered any pain in the gall-bladder region prior to this attack. Twelve years ago, however, he had an attack of pain in the appendiceal region, but was not compelled to take to his bed at that time.

At the time I first saw him, the greater portion of the mass mentioned was to the left of the umbilicus and occupying the median portion of the upper left quadrant, extending somewhat to the right of the median line. It was about as large as a coconut. Diagnosis was made of pancreatic tumor, probably dependent upon retro-injection of bile, the process not involving the entire pancreas. It was considered that we might possibly have to do

with a cyst, though the history was against this. Operation, to be done as soon as possible, was advised. The feces were found to contain fat. The urine, which was examined by Dr. Field, was amber in color and showed a trace of albumin. I had Dr. Hayes make the Cammidge reaction, which he reported positive. About this time Dr. Vance saw the patient with me and agreed that he should be operated on. I believe he was also seen by two or three other men, but what advice they gave I do not know.

On June 9th I made a left rectus incision about four and one-half inches long. Even before getting into the abdomen itself I found fat necrosis, which was also present in the omentum and in the subperitoneal tissues parietally. Upon going further I found a tumor of the pancreas, presenting between the stomach and colon, and behind the omentum, which lay over it. A trochar was put into this tumor and it was drained of a quart or more of fluid, dirty brown in appearance, which looked like fecal matter, though it had no odor whatever, and contained a few whitish lymph flakes, which had undergone partial dissolution. After withdrawing this fluid, the gastro-colic omentum was stitched to the anterior peritoneum, the drainage point walled off with gauze, a gauze cofferdam all around, the camula withdrawn and a large-sized drainage tube placed in the opening. This tube was of such size that when it expanded in the opening, it formed a complete plug, thus preventing any leakage. There was practically never any leakage; no soiling of the skin or dressings, everything being carried off into a bottle.

After the operation the patient's temperature became normal. The discharge kept up for quite a while, and at first in considerable quantities; probably a quart or more of fluid was discharged in the twenty-four hours following the operation. The gall-bladder was palpated some distance from the incision, and it was thought that a stone could be felt in the biliary tract, but I am not sure about this. The fluid which was drained off was examined and it answered characteristically the test for pancreatic fluid.

As far as the surgical side of the case is concerned, the patient has recovered. I think he has shown that he has enough pancreas left to carry on the digestive function without any trouble. From the history of the case, there is no question in my mind that it was a case of primary acute pancreatitis, induced by the retro-injection of bile into the pancreatic duct. What we term fat necrosis did not, in this case, have the same appearance as in other cases I have seen. These had a whitish appearance in the center and were

surrounded by a yellow zone. I think, in this particular case, this difference in appearance was due to the fact that a deposit of lime salts had taken place, giving them a more calcareous appearance. We know that is the manner in which Nature takes care of this so-called fat necrosis.

No bacteria could be detected in the fluid drained off and I believe this is true in practically every case of pancreatitis due to the retro-injection of bile alone. It has been shown by experiments that the injection of normal bile, bacteria free, into the pancreatic duct will produce this condition. This has been conclusively proven by Opie, Flexnor and others in their experimental work upon the lower animals. It is not an infective process, but a destruction of the pancreas brought about by the action of the bile upon it, a self-digestion of the pancreas and splitting up of the fats, these products being carried into the circulation. The material which is present in these tumors, or cysts, or about the pancreas itself, is not true pus, but consists of digested material, and I think we should make the distinction between these cases and those of true suppuration of the pancreas or secondary to infectious processes in neighboring structures.

One interesting point in this case is the subsequent history. The fistula was maintained and a small sized catheter kept in it, which was carried to a bottle placed in a bag fastened around the abdomen, thus keeping the skin and clothing absolutely dry. He became very much disturbed over the fistula and I advised him to confine himself to a diet absolutely free of carbo-hydrates, but this he did not do for quite a while. The remainder of the report, which the patient furnished me, shows that he discharged usually between two and three ounces of fluid a day. This fluid was at times turbid and contained a few small solid particles, but the larger portion of it was perfectly clear. I had it analyzed frequently and it answered every test for pancreatic secretion. This fistula continued to discharge until the middle of September, when he began to take soda bicarbonate and calomel with pancreatin, and kept this up until between the 25th of September and the first of October, upon which date he adopted a diet absolutely free of carbo-hydrates, eating nothing but eggs, sweetbreads and things of that sort. A few days after this the fistula entirely closed and has since remained completely closed. At the present time he has regained all his lost weight, weighing about the same as before he became ill. He has a splendid appetite and eats anything he desires without trouble. The only trouble he complains of is some tenderness

about the site of the incision when his bowels become constipated or distended with gas.

I will give just a brief resume of the other four cases. Three of these were operated on by myself and I report another operated case because I saw it in consultation and made a diagnosis of acute pancreatitis, which was questioned, the case having been previously diagnosed as one of acute gall-bladder perforation.

Case II.—This case was in the person of a man, 54 years of age, who gave the following history. About nine days preceding his last and fatal illness he had received a blow in the abdomen. He suffered some little discomfort for two or three days and thought nothing more of it until about three days preceding the time he was confined to his bed by the acute attack, at which time he began to suffer pain in the abdomen. He did not pay a great deal of attention to this, however, having suffered more or less digestive disturbance for quite a while. While at his office he was seized with a sudden, agonizing pain in the epigastric region. He went home to bed and was seen by his physician, Dr. Elmore, that afternoon, and later by Dr. Vance, who believed that he had suppurative, peritonitis, probably from a ruptured gall-bladder. Dr. Boggess and myself saw the patient later and advanced the opinion that he had acute pancreatitis. His belly was distended, with considerable tenderness over the entire abdomen, more marked in the upper abdominal zone. He was a bit cyanotic, had a very rapid pulse, and his temperature was about 101 F. The matter was placed before his family and, while we all believed that he had very little chance, still realizing that early and ample drainage is the only treatment that offers any hope in these cases, and that even if he did have perforative peritonitis, the operation should be done, he was sent to the infirmary and operated on that night. As soon as the fat was struck the characteristic necrosis at once presented, being of a whitish color, and showing conclusively that he had pancreatic disease. Dr. Vance did the operation, and when the abdomen was opened a lot of bloody turbid fluid escaped. Drainage was placed above and below the stomach (or possibly only below) and the man was put to bed and died within a very few hours.

I mention the above case simply because I saw the patient in consultation and made diagnosis which afterwards proved to be correct. The other cases, which I operated on myself, were as follows:

Case III.—Patient was seen in June, 1908. He gave a history of digestive disturbance extending over a number of years; had been a drinker, though in the last year or two had

not used alcohol to excess. The onset of the disease was sudden and marked by excruciating pain in the epigastric region. This pain radiated into the back and side. There was marked tenderness upon pressure, vomiting, profound shock and obstinate constipation. Diagnosis of gall-stone obstruction had been made by the physician. His temperature, when I saw him, was 102; pulse 130; abdomen distended and exquisitely tender. This was about ten days after the onset of the attack. At the middle line, about three inches below the sternal tip, was a tumor, symmetrical, and extending on either side to approximately the mammary line. This tumor was hard, tympanitic on percussion, tender and painful. It formed a distinct prominence, separated from the margin of the ribs. There was a slight icteric tinge to the conjunctiva and the urine contained bile.

This man was thought to have a suppurating gall-bladder with obstruction of the ducts. I made a diagnosis of acute pancreatitis, with degeneration of the pancreas and formation of a cyst.

Immediate operation was advised and carried out with a median incision, five inches in length over the tumor. The subperitoneal fat and the omentum were studded with areas of fat necrosis. There was bloody serum within the abdominal cavity. The intestinal coils were agglutinated and the stomach adherent, as was also the upper duodenum and omentum. The gall-bladder was small and contained no stones, but a stone was present in the common duct, occupying the duodenal portion. The condition of the patient was so bad that no attempt was made to do anything except to drain the tumor mass itself. The tumor in the epigastric region was opened through the gastro-colic omentum, and from it some bloody, purulent debris evacuated. A tube and gauze drain was put into this cavity, which was clearly in the pancreas, and the incision partly closed. Five days later the gauze drain was removed, the bowels having begun acting and the patient taking nourishment. A week after the operation he had lost twenty pounds in weight, the skin incision and the skin about it were irritated and the line of union beginning to separate, probably from the action of the pancreatic juice which came in contact with it. From the tube which remained in the cavity, aspirated fluid showed the reaction of pancreatic material. Belly soft, pulse 114, temperature 100F. The mass in the epigastric region had entirely subsided. Two weeks after the operation the patient died, the wound having opened up through its entire length, and the margins of the skin about it being greatly eroded.

The urine, taken the day after operation,

showed the following: color, reddish yellow, turbid; specific gravity, 1015; reaction, acid; bile, a trace; albumin present; hyaline, granular and amyloid casts; Cammidge reaction negative; no sugar. The stools showed no fat, blood, nor muscle fibre at any time.

Case IV. Mr. V. B., age forty-nine, presented at my office in shock, suffering great agony on account of excruciating pain in the abdomen. He gave a history of several attacks of pain upon previous occasions, with cramps in stomach, the last of which occurred two weeks previous to the time I saw him. Has never been jaundiced, but has been a more or less sufferer from indigestion. About nine o'clock on March 28, 1908, while shopping, he was seized with intense pain in the epigastric region. He was given some morphia for the relief of this pain without any effect, and a little later secured another dose of morphia. I saw him about twelve o'clock, three hours after the onset of the pain. He was in shock, extremities cold, nails blue, pulse thin, thready and very rapid. The epigastric region was very tender to the touch. The pain was described as keen, cutting and extending to the back. The abdomen was flat. There was no tympany. Liver dullness present; no vomiting, though great nausea. At first he was thought to have a perforating ulcer of the stomach. I had Dr. Lucas see him with me. He was sent to the infirmary, put to bed and closely watched for twenty-four hours. On the 29th he began to show some jaundice, with excruciating pain still present in the epigastric region, some vomiting and beginning distension. Marked depression and symptoms of shock were still present. His temperature was then 102 4-5; pulse 120; respiration 26. Leucocytosis 34,600. Urinalysis shows albumin and bile; sp. gr. 1020; otherwise negative. The following morning his temperature was 96 4-5; pulse 112; respiration 38.

Immediate operation was advised with diagnosis of probable obstructing stone. At the operation, which was at once proceeded with, there was found a small stone in the common duct; no stones in the gall-bladder. The head of the pancreas was markedly enlarged. The gall-bladder was opened and drained, and the common duct incised and the stone removed. The common duct was drained by a tube and gauze wick and the patient put to bed in very bad shape. He did very well for a few days, then his wound began to open, fat necrosis showing in the subperitoneal fat. Pus of a dirty, brownish character presented itself. Death ensued ten days after the operation, the skin about the incision being eroded and the wound wide open. No autopsy was permitted.

Case V. This case was seen during my service at the City Hospital, Dr. Hibbitt being my associate staff, and occurred just at a time when I had been reading a good deal about pancreatitis, and had been on the lookout for it, making Cammidge reactions in suspicious cases, etc., and still it was not recognized. This was in the person of a woman, thirty-five years of age, married, and the mother of four children. She was admitted to the hospital April 27, 1907; had been in failing health for nearly a year. About six months previously she had been seized with griping pains in the upper abdomen, with some vomiting and constipation. Diagnosis of gall-stone colic was made, which was relieved by medicinal treatment. Since that time the patient has been able to attend to her household duties, but has never been really well, having gradually lost flesh. On April 26th she was suddenly seized with deep-seated, violent and colicky pains in the upper abdomen, soon followed by nausea and persistent vomiting, constipation, abdominal distension and meteorism. When admitted to the hospital on the following day, the above symptoms were all present, with tenderness and rigidity of the upper abdomen, very slight distension, skin cold and clammy, beginning jaundice, subnormal temperature; pulse 90; respiration 36. Urinalysis showed a large quantity of bile; otherwise normal. Marked leucocytosis. Diagnosis, acute cholelithiasis obstruction, with cholecystitis and stone. Two high enemata were given without results. Following a third one, a black offensive fluid, containing hard white scybala, was passed. On April 28th, abdominal distension was increased; vomiting still persistent (brownish, offensive fluid); jaundice markedly increased; temperature 97; pulse 140; respiration 60.

On the morning of April 29th the patient showed some improvement. The abdomen was then opened, incision being made in the right rectus, beginning at the rib margin. The first thing noticed was extensive fat necrosis of the omentum, mesentery and subperitoneal fat. The gall-bladder was enormously distended, enlarged and dark, densely adherent; and, on opening it a dark, tarry bile flowed out. The adhesions were separated and when the bile tract was freed, a necrotic area in the gut involving the surrounding area was noted and there was an escape of serum, stained and odorous in character from the renal fossa. By this time the patient was doing so badly that no attempt was made to go any farther. A drainage tube was put into the gall-bladder and another down to the necrotic area, where a coffer-dam was placed, and the

incision closed. Death occurred within five hours.

The autopsy revealed these yellowish-white patches, denominated fat necrosis, in the omentum, mesentery and subperitoneal fat. From the gall-bladder some ten cholesterol stones, varying in size from a pin to a pea, were removed. The common duct was large and the diverticulum of Vater dilated. The liver was diminished in size, while the pancreas was more than twice the normal size and showed evidence of marked inflammation, with necrotic areas of small size. A hole was found in the duodenum just below the pylorus, where it was in proximity to the gall-bladder when the latter was distended.

DISCUSSION.

J. Garland Sherrill: The last case mentioned by Dr. Frank came under my observation in this manner. Dr. Hibbitt very courteously asked me to see the patient in his ward one Saturday morning. I made a diagnosis of gall-stones, with probable ruptured ulcer of the stomach, and advised him to go into the abdomen. For some reason operation was delayed until the following Monday. I was especially interested in the case because, at operation, diagnosis of pancreatitis was made, while the interne who performed the autopsy told me that he found gall-stones which had been overlooked at the operation; also, a ruptured ulcer in the duodenum. This, I think, should be added to the report, as it was certainly the cause of the necrosis in this region and not acute pancreatitis per se.

Wm. H. Wathen: This is a very interesting subject. Up to this time, in the acute form of pancreatitis, the patient has usually died, as in the last case reported by Dr. Frank. They have died because of the malignancy of the disease and because of delay in operating, and this delay is usually the result of a lack of knowledge in making diagnosis. Acute pancreatitis of the true form—even more typical than in any case Dr. Frank has reported—may be confounded by the best of surgeons with perforation of the stomach, perforation of the pylorus, perforation of the duodenum or perforation of the gall-bladder; and, even after such perforations have occurred, especially in the duodenum and in the pylorus, we may have no general leakage into the abdominal cavity, but we have adhesions forming because of the slight perforation, and then we may have deep-seated infection going down and involving the pancreas and causing necrosis of the fat.

The most important part of the whole subject is this: In chronic pancreatitis, which has been so conspicuously presented to the world by Mayo Robson, of London, and subsequently worked out and the pathology very accurately

given to us, we do not have immediate death of the patient, but the trouble may result in death if not properly treated. Mayo Robson discovered a means of treating those cases very satisfactorily by draining the gall-bladder, knowing that in most instances it is probably the result of gall-bladder infection and possibly gall-stones. Now, my experience has not been in acute pancreatitis but in chronic pancreatitis, and I have found that nearly all of them are relieved by drainage of the gall-bladder by cholecystostomy or cholecystenterostomy.

It has been taught that the infection may extend into the pancreas from gastro-duodenal catarrh, or from the bladder down through the ducts and out into the tube, and this is probably true; but it has been recently advanced that probably in the majority of these cases the infection of the pancreas is through the lymphatic channels coming from the gall-bladder. The lymphatic channels from the gall-bladder go down and empty into the pancreas, and the lymphatics of the pancreas go to the head of the pancreas and there we find a cross-roads, as it were, where infections of any kind would meet. Usually the acute forms of pancreatitis are not in the tail of the pancreas, as in the case Dr. Frank reported, but in the body or head of the pancreas.

The sooner these cases of acute pancreatitis are operated on the better. Whether you can diagnose the trouble or not, whenever the symptoms are sufficient to not only justify but demand operation it should be done immediately. If you wait a few days your patient will die whether you operate or not.

M. Casper: I would like to ask Dr. Frank if he ascribes the sudden healing of this fistula to the change of diet in the first case he reported, and, if so, to explain how the diet would effect the cure?

Louis Frank (closing): In answer to Dr. Casper's question, I will say that I do ascribe the healing of this fistula entirely to the diet, merely because of the fact that the change of diet caused a discontinuance of the activity of the pancreas. In several instances where these patients have been put upon a diet free of carbohydrates, the same results have followed very shortly after the establishment of such diet. Consequently, in this case, in view of the fact that, under a general diet, the fistula remained open from June until the latter part of September, I think it reasonable to ascribe the closure to the establishment of a diet that caused a cessation of the activity of the pancreas, resulting in a diminution of the pancreatic secretion and not allowing any to flow through the fistula.

I appreciate what Dr. Sherrill has said and the spirit in which he has said it; I have not misunderstood him in the least. On the other

hand, I hope Dr. Sherrill will not misunderstand me when I say that the man who was on the ground and did the operation ought to be competent to judge of the cause of the patient's death. I certainly can see no other explanation for the diffused fat necrosis present in this case than that of pancreatitis. At the time of the operation, I was not sure, but did not think that I had torn the duodenum. However, in view of the mass of adhesions between the gall-bladder and duodenum, even if an opening was found in the duodenum upon autopsy, it does not necessarily follow that it was due to an ulcer. The notes I have given here were taken from the report of the interne who performed the autopsy, which states that the gall-stones were found outside of the duct.

A perforating ulcer does not produce pancreatitis of the variety under discussion, though perforation of the stomach or duodenum may produce suppuration of the pancreas, but this was not a suppurating pancreas, it was a hemorrhagic pancreas. We also have sections of this pancreas, and, if Dr. Sherrill still doubts the diagnosis, I will be glad to submit these sections to him and he can have them examined. I believed at the time of operation that the trouble was due to the retroinjection of bile caused by obstruction produced by the stone, and I still believe that to have been the case. The perforation found in the duodenum was not present at the time operation was done, but was, in all probability, made in separating adhesions, as stated in the report. Also, this history and the autopsy findings are quoted *verbatim* from the interne's report, signed by Dr. Lukins, and do not coincide with Dr. Sherrill's statement of the verbal report. These written reports, these photographs of the pancreas, and the operative report made at the time by my assistant are herewith submitted. These, I think, tell the story. Dr. Lukins has the pancreas and the gall-stones mentioned in my report as having been found post-mortem.

DESTRUCTIVE EPITHELIOMA OF THE NASAL TISSUES.

(PRESENTATION OF PATIENT).

BY I. N. BLOOM, LOUISVILLE.

This patient, the wife of a blacksmith, is 37 years of age. Three years ago she noticed a lesion on the left side of the nose, at about the bridge, with a crusty covering, which slowly developed until, in the course of a year or a little more, it was somewhat larger than a thumb nail. The crust would form and fall off, in the characteristic way. About a year and a half after the beginning of the trouble, and six or eight months before I saw her (which was last May), she called in a

doctor whom, I have since learned is a herb doctor. He gave her a salve and a liniment, both of which she applied to her nose twice a day. At the end of a month her nose was entirely destroyed, whether the result of the treatment or the disease I am not willing to say. I saw her last May with essentially the condition that presents now, except that there were indurated edges on the lower lip, ulceration going on, and above there were elevated indurated edges also. After she had been under my care for about two months I think Dr. Abell saw her, and Dr. Dugan also saw her not more than five or six weeks ago. At any rate, in the interval I destroyed, by means of the actual cautery, the growth which affected the lower lip, and since Dr. Dugan saw her, I have destroyed by the same means, the indurated tissue above. She now presents complete destruction of the nasal tissue, with some reformation of the indurated tissue here. I had no doubt as to the nature of the original disease, namely, epitheliomata. In order to dispel any possibility of luetic origin, I put her on specific treatment during the first four weeks I saw her, without any effect. Bad as the lower lip looks now, it is infinitely better than when I first saw her.

It is a question of rhinoplasty, and I would like to hear the opinions of those who have had experience in this disease as to whether operation should be done immediately or delayed, and whether it offers any chance of success.

As to the method of operation, so many have been devised that each particular case has to be the sole arbiter of what method is to be employed. The physician must suit the method to the defect to be supplied.

One of the gentlemen who has seen this patient, told me of similar cases which he had seen under the care of the same herb doctor.

DISCUSSION.

J. B. Richardson, Jr.: I have had no personal experience with the treatment of this condition, but it seems to me that, in this case, the epitheliomatous process is still present; therefore, I would deem it advisable to wait until this has entirely ceased before any plastic work is attempted.

W. C. Dugan: I do not think the time has arrived for plastic work in this case. The patient certainly has some infection of the flap, if not from the epitheliomatous tissue certainly from other kinds of infection, and the object of the operation would be defeated. The operation should be held in reserve until the epitheliomatous process has been entirely eliminated.

J. Garland Sherrill: I think we are all practically agreed that, inasmuch as there is some

induration around the margins, and as the epitheliomatous process has not been destroyed, the best plan would be to continue the canterization until cicatrization is practically complete, and then do the plastic work. That can be deferred for some months, until it is known that the disease is checked.

I. N. Bloom (closing): I am obliged to the gentlemen or their advice, and I think they are quite correct.

TRAUMATIC ANO-RECTAL FISTULA.

By BERNARD ASMAN, LOUISVILLE.

This case possesses several points of interest, and also beautifully illustrates the advantages of the anal dressing tube which I exhibited at the last meeting of the Society.



ANAL DRESSING TUBE

This patient, who lives in West Virginia, is 16 years of age, and weighs about 190 pounds.

Family History.—Mother and father living and in good health; one sister, 15 years old, in good health; no consumption in family.

Personal History.—Was always healthy until about twelve years of age, when some nervous trouble began which was finally

diagnosed as a mild form of St. Vitus' Dance. This was followed by some trouble referable to the heart. He tells me that he made a complete recovery from these conditions within a period of three years, from the time he was 12 until he was 15 years of age.

Present Illness.—On February 23, 1909, in jumping over a high fence, he struck an elder stalk, which had been broken off about four feet from the ground, which penetrated his rectum a distance of six or eight inches. He remained in bed a few days and it was thought he was getting along all right. However, trouble began about twelve days later in the shape of a large peri-rectal abscess. A great deal of pus was present, and operation was done (under local anesthetic) for the removal of this abscess. The cavity then contracted, but the abscess showed no signs of healing and a great deal of pus continued to be discharged. He was again operated on, under general anesthesia, March 16, 1909, an attempt being made to eradicate the fistula, and in doing so the sphincter was cut. It did not reunite, and following this the patient had practically no control over his bowels. The wound contracted, but did not heal and much pus continued to be discharged. He was operated on again, under general anesthesia, on October 20, 1909, actual cautery being used, which was again followed by no healing and discharge of an increased quantity of pus; no control over bowels. The patient says his general health at this time was very much below par, and he felt bad generally, considerable pain in the back being a constant symptom; no improvement. Bismuth paste was used November 20, 1909, which caused him much pain and did no good.

Patient was brought to me by Dr. J. H. Rowsey, of Huntington, W. Va., on January 14, 1910. Examination revealed a fistulous opening at the anal verge, large enough to admit my index finger, which passed into a circular cavity, three inches in circumference, and which extended upward along the bowel a distance of fully five inches, being separated from the bowel cavity only by the thickness of the bowel wall. The function of the sphincter was found to be entirely destroyed, the severed ends being more than an inch apart.

Operation.—After careful preparation of the patient, including sterilization of the fistulous tract, an incision was made, encircling the external opening, and carried upward for about an inch, after which the external opening was carefully closed. The dissection was then continued until the lining of the entire cavity was removed, care being taken not to cut through this tough

lining substance at any point, lest the fresh wound should be infected. It was necessary that the buttock be laid open transversely in order that sufficient room might be secured to get to the uppermost limits of the disease. By a darning-like process, the entire wound was closed, all dead space being eliminated. This was done by going backward and forward, bringing the sides of the wound together and finally attaching them to the bowel with the last row of sutures downward. Dissection was then made to get the divided ends of the retracted sphincter muscle. They were brought together firmly by suture and the external wound closed. The anal dressing-tube was inserted, covered by the usual dressing.

To make short what might be made a long story, the patient is here this evening, the fistula completely and soundly healed, and the function of the sphincter muscle entirely restored. This has been accomplished with practically no pain, especially as compared with the former open operations, and at no time has there been any pus about the wounds to contend with.

DISCUSSION.

Wm. C. Dugan: I wish to congratulate the doctor on the most excellent results he has obtained in this case. In regard to the tube which Dr. Asman exhibited, I think the result of this operation can be credited to it. It almost revolutionizes the treatment of fistula. A few days ago I saw this tube introduced in a fistula case in which the doctor dissected out the fistula very much as he did in this case; it was not so extensive, however, I saw the case afterwards, and it healed very much as we would expect a wound of the surface to heal, no suppuration, perfectly dry, and the discharge came out through the tube and was absorbed by the gauze around it. I do not believe he could have gotten the same result without the use of the tube.

J. Garland Sherrill: I have always advocated doing away with drainage wherever possible to do so, but most of us have not discarded it so close to the anus, as in the case exhibited by Dr. Asman. It seems to me that he has opened up a great field, as shown by the beautiful result he has obtained in this case, and I think both he and the patient are to be congratulated.

Elmer L. Henderson: I had the pleasure of assisting Dr. Asman in this operation. The wound healed very rapidly with no infection whatever, which I think demonstrates the advantage of the ano-rectal dressing tube in these cases.

Bernard Asman (closing): I have nothing to add except to say that I have been using this tube for about two years, and have used it in practically all ano-rectal operations. It is of

great advantage in operating for hemorrhoids and has very much changed my operation in such cases. It does away with a great deal of the pain and lessens the time required for the patient to get well.

In restoring the function of the sphincter muscle, I think it is of especial value. Always when operating for the repair of the sphincter I feel just a little fear that the function of the sphincter muscle may not be perfect, and before I had some means of preventing infection of these wounds, the results were not always such as were to be desired. In this case I was especially anxious to get a good result. I have, as it were, tested this boy's sphincter. His bowels move daily and there is no trouble in getting them to move at any time with an ordinary laxative, but the other day I gave him two C. C. pills, and asked that he let me hear from him without telling him what I feared might result. He told me that in the morning when the desire came to go to stool, he got up and went, and reached there with time to spare. It seems to me that this is pretty good evidence that his sphincter is all right. He can control an injection of water, hold it readily, and carry it around for a time just about as well as one whose sphincter has never been injured.

FULGURATION IN A CASE OF NAEVUS VERRUCOSUS.

(REPORT OF CASE).

By M. L. RAVITCH, LOUISVILLE.

Miss G, age 13, had a small naevus on the right forearm from childhood. It was pigmented and with very little elevation. It gradually grew until it reached the size of two and one-half inches. Later on a downy growth of hair covered the whole mole; this hair was soft and long. The patient was not properly treated and later on it assumed a verrucous nature. When an irritating salve was applied by a woman friend of the family, the mole became very much elevated, angry-looking and spongy. As it was too large and too deep to remove by means of the knife, fulguration treatment was decided upon. I removed a section of it a few days ago and will show you the result later on.

CONTINUED REPORT.

The patient was exhibited several weeks ago and as we had no time to give the history of the case will make a few remarks now. The patient's age, 13 years; had a naevus pilosus on the right arm from babyhood. It was pigmented, elevated and with a downy growth. It gradually grew to the size of about 2½ by 2 inches, with a border around. Some time ago a woman, having a cancer salve, applied it to the mole and it became angry, painful and verrucous. Moles of this kind are

rare and are accompanied with hypertrophy of the pigment and subcutaneous structure. When they are normal and smooth they are called naevus spilus; with hair, naevus pilosus; rough and warty, naevus verrucosus. This one belongs to the last group. Moles of melanotic origin often become very malignant. Fulguration treatment has been used in this case with very satisfactory results.

DISCUSSION.

J. Hunter Peak: I am not familiar with electrical work of this kind, but the method Dr. Ravitch has used seems to be very simple and not dangerous, like the X-ray, and is one that should be used more. I remember to have heard Dr. Keen, at Atlantic City, some years ago, read a paper on the subject of naevus, warts, moles, etc., and it occurs to me that, if they can be removed as easily as in the case shown to-night, there is no reason why we should take any chances of growths of this kind undergoing malignant changes, as Dr. Keen said nearly every one of them eventually will do. It seems to me that this is a very satisfactory way of removing them.

Herbert Bronner: I have had no experience with the use of the high frequency current in the treatment of pigmented moles, but I have always gotten very satisfactory results by the use of electrolysis. Another measure that is used quite a good deal by Dr. Pusey and a few others, is carbon-dioxide snow, and very excellent results have been reported from the use of snow in naevi of this type, practically no scar being left.

H. H. Grant: I have recently seen quite a troublesome angioma situated in the middle of the forehead of a child two months old. A few days after it was born, I was asked to circumscribe it, and I noticed this little spot between the eyes, which could then just be seen. It grew rapidly, however, and when I saw the child the second time it was pulsating. The patient was seen by Dr. Haws, and he thought it would be unsafe to use electrolysis, and at the request of the family I wrote to Dr. Pusey, of Chicago, regarding the use of the carbon-dioxide snow, and he answered that he could remove the growth without leaving much scar, but that it would probably require two operations. While he stated that there would be no danger from it and that the family would not be detained more than twenty-four hours each time, the parents decided to have it removed here, and I extirpated the growth, which was by that time nearly as large as a quarter. I simply incised the skin at the tip of the growth, dissected it back and ligated subcutaneously. All sloughed out and left only a linear scar, which has now practically disappeared. I do not think any less scar could

have been left under the use of the snow than was left in this case. Perhaps if I had not ligated it there would have been considerable hemorrhage, but with the ligature passed around it as a purse-string the parts were strangulated and the skin closed over it, and although there was some discharge and suppuration, the growth all came away.

M. L. Ravitch (closing): In regard to carbon dioxide snow, I have used it several times, but gave it up because the results were not satisfactory. At the last meeting of the Chicago Dermatological Society, which I had the pleasure to attend, I talked with Dr. Pusey and Dr. Zeieler and obtained from them their experience with the carbon dioxide snow. It seemed that in the beginning they were very enthusiastic, but later on their enthusiasm was not as great, as the results were not as good as they hoped.

The first time I saw the fulguration treatment practiced, was in Chicago, in December, and I was charmed with it. This is the first case in which I have used it, but I think I am going to use it in another case which I have under observation. The cosmetic results are beautiful.

MEDICAL PROGRESS

DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS.

BY W. H. COLEMAN.

I.—TREATMENT OF CHOREA.

New York Medical Journal, Nov. 20, 1909.—Dr. Orton suggests that the patient should be placed in absolute quiet and rest, the diet mild, nourishing and non-stimulating. Search for and remove any reflex irritation. Interdict any amusement, study, reading or other amusement. In some cases which have resisted the use of Fowler's solution of arsenic, he has employed chloretone with immediate benefit. To a child 9 years old he gave chloretone one-half grain three times a day; then reduced the dose by $\frac{1}{2}$ gr. a day.

II.—PRURITIS ANI.

British Medical Journal, Aug. 21, 1909.—Dr. Tomkinson writes upon this subject: This harrowing condition can be alleviated and permanently cured, when attention is given to every detail of treatment. Recognize the actual cause of the condition if possible. Carefully adjust the general health and regulate the diet to suit the case in hand, avoiding all stimulants, as tea, coffee or alcohol.

Internally, the tr. of cannabis indica well diluted and given after meals, the bromides, phenacetine, and other sedatives are useful.

Locally.—Salines should be given every morning, and the parts well cleansed with 1-1000 bichloride solution after each defecation. Hot water applied affords relief and prepares for further local treatment. Cocain ointment or suppositories may now be used for relief of the distress. Of the drugs which have afforded the author most positive good results are tar, lead or mercurial ointments.

More radical treatment may be required for the intractable cases. The actual cautery and linear scarification will permanently relieve many cases, though the author prefers static electricity, and especially the high frequency current for a positive cure of the most obstinate cases of pruritus ani.

III.—UROTROPIN.

Prof. Howard Kelley suggests that urotropin is one of the very best of urinary antiseptics. Its best results are noted as a prevention of cystitis. If the patient is to be catheterized, as after a severe confinement, urotropin should be given in 10 grain doses three times a day until danger of infection has passed. Following surgical work it is a valuable prophylactic. In acute cystitis and pyelitis especially following typhoid it is effective. It is least effective in tuberculous cystitis and most effective on the colon bacillus than upon any organism.

IV.—FLAVOR FOR POTASS. IODIDE.

An unknown writer has suggested that after a thorough test of many agents for disguising the taste of kalium iodidum, he prefers the syr. of ginger to any other menstruum.

V.—VOMITING IN PREGNANCY.

Wallich writes in *Annals of Gynecology and Obstetrics*, April, 1909—The diet should be strictly regulated, first, in the uncontrollable cases. The author finds that a milk diet is best, giving a teaspoonful at very frequent intervals, say one-half hour apart or oftener. Fruit juices are allowed at intervals if agreeable. If milk does not agree then a water diet is substituted, given at frequent intervals, and in place of all food. Then gradually return to the milk diet, having water added to it. If this line of treatment fails, it is discontinued and saline enemas are employed for a short time, gradually returning to milk diet.

Drugs The bowels and kidneys should be stimulated. Chloral hydrate is the best of drug sedatives given per rectum in suppository or enema.

Pregnancy should be terminated if the pulse remains above 100 for any length of time, and severe nervous manifestations and vomiting continue.

VI.—SOPHOL IN OPHTHALMIA.

Herff writes in *Central-blatt für Gynackol*—The author has experimented widely with the various silver salts as a prophylactic against ophthalmia neonatorum. Instillations with nit. silver permitted 23% of eye affections to develop. Protargol reduced the percentage to .06%. At the same time protargol is not an ideal remedy, since it irritates the eyes in 30% of all cases.

Sophol which is a compound of formaldehyde-neucleinic acid with silver, will irritate the eyes in only 10% of cases, and instilled in the eyes of 4,000 children in the Women's Hospital of Basel, Switzerland, there developed but one case of gonorrheal infection.

The author therefore believes that Sophol is the best remedy at hand for the prevention and treatment of this condition. The treatment is mild, non-irritating, effective, and can be easily handled by the average nurse.

VI.—SALICYLATE OF SODA IN SURGICAL TRAUMA.

Dr. Lesser writes in *Med. Rev. of Rev.*, June 25, 1908—The diffusibility of salicylate of soda is well known. It appears when injected into a vein, in the urine in 10 minutes, in the bile in 20 minutes. In the stomach it appears in urine in 45 minutes. It is eliminated by the skin and kidneys and appears in inflammatory exudates. The author "finds an action not noted by many authors, but well explained by clinical facts." In surgical trauma the effect of the drug is positive, if not startling, acting as a sedative to the inflammation connected therewith. This is due to its rapid diffusive power, both through the circulation and also by direct osmosis. "As soon as normal doses of salicylate of soda have been absorbed, there is noticed a relaxation of the vessels and tissues in general, and every form of pressure is diminished to a corresponding degree." Therefore great benefit is obtained by its use in pelvic inflammations, peritonitis, painful endometritis, and menstruation, venal and biliary calculi, cystitis, orchitis, and especially in acute septic cellulitis of the extremities. At the Red Cross Hospital in New York this drug is given as a routine treatment for the reduction of such inflammation, with very satisfactory results.

Relations between Contracted Kidney and Hypertrophy of the Heart.—Jores has been studying the pathologic anatomy of this question, his conclusions being against the assumption that the degree of hypertrophy is determined by differences in the destruction of kidney tissue. It seems much more probable in the still unknown injurious influence which induces the production of red granular kidney, for instance, there is a strong blood-pressure raising element.

KENTUCKY MEDICAL JOURNAL.

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

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NO. 13

EDITORIAL.

THE ST. LOUIS SESSION OF THE A. M. A.

The meeting of the American Medical Association in St. Louis in the early part of the past month will go down in the history of medical organization as one of the most successful and satisfactory of the sessions of the parent body. The attendance was large and representative. Papers presented before the scientific sections will carry to the whole profession the latest word of the most recent advances in every branch of our science. The scientific exhibit was so complete as to have been a liberal post-graduate course to every member who studied them. The arrangement and plan of the commercial exhibit was by far the most successful that we have ever had, and to Mr. Braun and his associates are due the thanks of those members of the profession who were so fortunate as to see them.

In the House of Delegates, W. W. Richmond, of Clinton, J. W. Kincaid, of Catlettsburg, B. F. Van Meter, of Lexington, and A. T. McCormack, of Bowling Green, represented the Kentucky State Medical Association. Other States were represented by men of like character and standing. Probably the major part of the work of the House of Delegates is suggested by its standing committees and councils and the State Associations. These are digested and put in shape by the reference committees of the House during the sessions and perfected on the floor of that body. One of the reference committees was in session practically continuously for sixty hours, and others almost as long. One committee gave over twenty hearings to parties interested in different parts of the matters referred to them. We recite these matters at some length as showing the character of the work of the great representative body of the American profession.

The resolution endorsing the principles of the Owen Bill creating a Department of Public Health, is published elsewhere in this department. It is so important that it should be read by every physician, and read aloud to important laymen as often as may be. Upon the report of the Committee on Organization a resolution was adopted providing for a strong committee of seven members to perfect this bill and incorporate in it other pending legislation, so as to make it properly conserve all the vast interests involved, both of the various bureaus in Washington, and, far more important, those of the people and the profession of the whole country.

The by-laws were practically re-written. Most of the changes were a simplification of verbiage, but it was felt that in many ways this important guide for our work could be made more effective. As soon as the changes can be compiled it will be sent to each State Secretary for publication. The four chief provisions were: that eliminating the possibility of any physician becoming an associate member who was not a legal practitioner at the time of his application, the bestowing of the specific power on the House of Delegates to remove members of committees at any time, the provision of appeals from the State Associations to the Judicial Council of the American Medical Association on constitutional questions, and the consolidation of various standing committees as a Council on Health and Public Instruction. This gives this latter body similar dignity and standing with the Council on Medical Education, about which more will be said later. The new Council will have charge of all the activities of the Association along the lines of organization, legislation, public instruction, defense of scientific research, and public health.

The report of the Council on Medical Education was a magnificent one, and we trust it will be read in full by every reader of the

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. We wish it were possible to repeat it all. Filled, as it necessarily is, with the rather discouraging past and present of Medical Education, its hopeful and sanguine outlook for future activities of the teaching institutions of our profession will bring new hope to all of us.

At the suggestion of the Sections on Surgery and Pædiatrics, the Trustees were authorized to begin the publication of two new journals, one in each of these branches along similar lines with the ARCHIVES OF INTERNAL MEDICINE, which has already done so much for the scientific advancement of this branch.

All in all, every moment of the session was of importance and value to every physician and to all people of our country. That five thousand medical men should have been willing to leave their homes and practices, each at his own expense, and should have gathered together to discuss the means, not only of better treating existing diseases, but in a far-reaching and practical way, to discuss also practical methods for the prevention of more than one-half the existing causes of illness and death, is noteworthy to say the least of it.

THE NEW OFFICERS OF THE A. M. A.

The election of officers this year was of unusual interest because of the resignation of Dr. George H. Simmons, who had for ten years successfully conducted the Secretaryship.

Dr. John B. Murphy, the distinguished surgeon of Chicago, was elected President after a most friendly and honorable contest with Dr. Abraham Jacobi, one of the real geniuses of the profession.

Two of the most prominent of the younger members of the profession were being proposed for the Secretaryship in spite of a strong under-current in the minds and hearts of every one that Dr. Simmons's resignation should be refused and that he should be kept at the front. This feeling became more and more intensified as the days passed by the virulent attacks in the columns of the local press on the Association and its work, by his personal enemies, and by those elements who desire to bring confusion into our ranks, representing, as they do, the patent medicine, quack, anti-pure food, Christian Science and other cults and sects, whose only hope for success is in the disintegration of our organization. Probably the most prominent medical man now living was quoted as saying that the newspapers of St. Louis, judging from their reports of our great meeting, must regularly have gotten the news of their

churches from interviews with jail birds, of the bills of fare, of banquets from the contents of sewers, of the doings of society from seullions, and of the conduct of their asylums from their diseased and disordered inmates. Coupled with this resentment was the universal feeling of confidence in Dr. Simmons personally. Realizing, as every intelligent physician does, that he and his associates had brought the Association from a small number of select men in a few States to a splendid organization, reaching into every county in every State, and numbering in its ranks practically every active practitioner of medicine in the whole country, and that he and they in the same time had brought the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from its low rank among medical publications up to its present proud position as the leading professional journal of the world, the entire membership of the House of Delegates felt overwhelmed with the responsibility of selecting any one, however well fitted he might be, as the successor of the great man who had accomplished all this. Feeling all these things, the delegates were first astonished, and then delighted and carried away with the burst of oratory from Dr. Chase, of Texas, insisting that Dr. Simmons should be kept at the helm. His motion and nomination was seconded by delegate after delegate until almost every State had been represented, and he was elected first by an unanimous rising vote preceeding the formal ballot. It was a great tribute to a great man by a great organization, and nothing could have done more than this action has done toward carrying consternation into all the ranks of those fighting the future of American medicine and the consequent health of its people.

Drs. W. W. Grant, of Denver, a former Alabamian and an old Confederate soldier, and C. E. Cantrell, of Texas, were unanimously re-elected to the Board of Trustees. Dr. F. J. Lutz, of St. Louis, was elected over Dr. Phillip Marvel, of Atlantic City, for the third place on the Board by a narrow margin. Dr. Marvel retires with the unanimous confidence and good will of his associates and of the profession which he has served so long and so well. In his successor the profession of the Middle West feel that they have added a strong man to the business Board of the Association.

On the new Council on Health and Public Instruction Dr. Welch named, and the House elected, Drs. J. N. McCormack of Kentucky, Woodward of the District of Columbia, Cannon of Boston, Favill of Chicago, and Bracken of St. Paul. Owing to the latter's illness, the organization of this Council was postponed for the present.

The next annual session will be held in Los Angeles, which won over Buffalo by a narrow margin, after the withdrawal of Dallas and Louisville, which were also contestants. Los Angeles' victory was due largely to the personal popularity and standing of Dr. E. Burt Ellis, who has for several years been Chairman of the Committee on Credentials, and who is one of the strongest members of the House. Arrangements are in the making for a special train for the Kentucky party to Los Angeles next year, details of which will be published later.

RESOLUTIONS REGARDING OWEN BILL UNANIMOUSLY ADOPTED AT ST. LOUIS.

Dr. Guthrie, Pennsylvania, presented the following resolution, which, on motion of Dr. W. W. Richmond, Kentucky, was unanimously adopted by a rising vote:

Resolved, by the American Medical Association, That the principles of the Owen Bill, having for its object the creation of a National Department of Health, now pending in the Senate, and similar bills introduced in the House by Representatives Simmons, Creager and Hanna, be, and are hereby, heartily approved by this Association, and the cordial thanks of the medical profession of the United States, officially represented by it, are hereby tendered to Senator Robert L. Owen, Irving Fisher and their co-workers for their able and unselfish efforts to conserve and promote the most important asset of the nation, the health and lives of its women, its children and its men, properly understood the greatest economic question now confronting our people.

The members of this Association stand for pure food, pure drugs, better doctors, the promotion of cleaner and healthier homes, and cleaner living for individuals, for the state and for the nation. We believe this to be held as equally true by the reputable and informed physicians of all schools or systems of practice.

We welcome the opposition of the venal classes, long and profitably engaged in the manufacture of adulterated foods, habit-producing nostrums and other impositions on the people, to the extent of hundreds of millions of dollars annually, and express our sympathy for the well-meaning men and women who have been misled and worked into hysterics by the monstrously wicked misrepresentations of a corrupt and noisy band of conspirators, and who are being used as blind instruments to enable them to continue to defraud and debauch the American people.

Medical science is advancing, especially on its life-saving side, with a rapidity unknown to any other branch of human knowledge. It is known of all men that our members in every community in the United States are unselfishly working day and night, instructing the people how to prevent tuberculosis, typhoid fever and the other diseases from which physicians earn their livelihood. Therefore, we welcome and will wear as a badge of honor the slanders of these unholy interests and their hirelings.

DOCTOR'S INCOMES.

Available statistics indicate that the average income of Kentucky doctors is about eleven hundred dollars a year. The sum is ridiculously low in the estimation of every one but the doctor and would be so to him were it not so painful. All doctors and many other people will agree that such an income is absolutely inadequate and does not meet the reasonable requirements of a good physician.

Incomes in general have increased much in recent years, but the doctor's income has been a notable exception. Medical fees have remained stationary in nearly all communities. The exceptional or extraordinary services of the physician, such as surgery, obstetrics and consultations, are a little better paid than twenty years ago, but the bulk of his work is done at prices prevalent a quarter century ago.

The gain in exceptional fees is more than offset by the loss due to the advances of preventive medicine. As an instance of this the new waterworks at Cincinnati has so lessened typhoid fever in the adjacent Kentucky cities as to cause a falling off of at least fifteen thousand (\$15,000) dollars annually in the income of Kentucky doctors in their territory tributary to Cincinnati. Vaccination, quarantine and isolation, disinfection, sanitation, medical inspection of schools, anti-tuberculosis crusades and public instruction in health matters are all doing their good and proper work of lessening disease and incidentally diminishing our incomes.

On the other hand the cost of living has enormously increased in two respects. The necessities of life cost much more than in the past and the customary standard of living is higher and hence more expensive than formerly. On the whole the doctor is getting the worst of it and the question of how to make the best of it is becoming acute.

W. W. A.

PURE FOOD LAW.

Few of us realize the far-reaching benefits of the National Pure Food Law. Dr. Wiley and his associate benefactors are getting in their work for the public health every day. Samples of this may be found in the conviction of a New York drug company which shipped a quantity of witch hazel to New Jersey, labeled, "For the relief and cure of sprains, bruises, bites of insects, burns, scalds, wounds, painful swellings, lame back, piles, sore throat, neuralgia, rheumatism, chilblains, etc., etc.," which statements were false and misleading, in that the product would not relieve and cure the ailments specified on the label.

A Maryland distillery was convicted for labeling their product "Old Cabinet Whisky," in that this statement was false, misleading and deceptive, in that it conveyed the impression that the product was straight whisky, whereas it was not, but a rectified article combined with grain distillate.

A Cincinnati druggist shipped some laudanum into Kentucky labeled, "Laudanum—Poison!" etc., which was misbranded, in that this product was not made in accordance with the United States Pharmacopeia, and that the label failed to bear a statement of the quantity or proportion of alcohol, morphine and opium.

The Kinne Medicine Company, of Hudson, Michigan, shipped to Louisiana a medicine named "Kinne's Sure Headache Cure for Sick, Periodical and Nervous Headache. These powders do not contain any morphine or cocaine. Each powder contains a small quantity of acetanilid two grains to the dose." The court decided that these statements were false, misleading and deceptive, in that it was represented that the said product contained two grains of acetanilid to the dose, whereas, an analysis showed that it contained three grains to the dose, and it was further misbranded in that the label stated that this preparation was a sure cure for headache, whereas, in fact, there was nothing shown in the analysis of the product to warrant the statement that it was a sure headache cure.

The Frederick Stearns & Company, of Michigan, shipped to Tennessee a product labeled "Nial's Compound Extract of Damiana," of which the label stated among other things that it contained 50% coca, and that it was "Useful as an aphrodisiac and for the restoration of virility in debility of the reproductive organs of both sexes." This company was convicted and fined because the product contained a quantity of cocaine, and did not show upon the label the quantity or proportion of said cocaine, that it was further

misbranded because it was called "Compound Extract of Damiana," which statement was false, misleading, and deceptive, as there was not enough damiana to justify its use in the name, and that it was further misbranded because the label contained the statement "Useful as an aphrodisiac and for the restoration of virility in debility of the reproductive organs of both sexes," which statements were false, misleading and deceptive, and tended to deceive and mislead the purchaser into the belief that the so-called extract of damiana was useful to restore virility in debility of the reproductive organs of both sexes, when, as a matter of fact, the said preparation did not contain the aphrodisiac qualities claimed for this product, and it had no value in that respect, and that such statement on the label was unwarranted.

These decisions might be quoted at almost any length. The purification of fruit extracts, the necessity for full weight in canned goods, the cleanliness and proper labeling of cheeses, the purification of milk, the proper labeling of syrups, the cleanliness of dry fruits, and above all the requiring of honest labels on advertised drug products, are all noteworthy. Among other interesting exposures is that of the so-called "Mother's Friend," which has long been known as a useless and expensive fake. No other activity of the National Government deserves to a greater extent the confidence and support of our profession than the enforcement of the Pure Food and Drug Law.

A CHANCE FOR EVERY DOCTOR TO HELP.

The Kentucky Association for the Study and Prevention of Tuberculosis earnestly enlists the co-operation of the physicians in Kentucky in its fight against the White Plague in this State. It feels that it must depend to a great extent upon the medical profession to endorse its work and will gladly send to every physician who wishes to give a lecture on Tuberculosis—and there are many opportunities for this in every town—a general lecture outline on the Tuberculosis problem, which will make it easier for the doctor to outline a lecture that the laity, not familiar with medical terms, may understand.

The Association also has for distribution a very attractive four page leaflet, entitled "Some Things You Ought to Know About Tuberculosis." By sending a postal to the Executive Secretary, Eugene Kerner, at 215 East Walnut street, Louisville, you will receive, free of charge, any number of these leaflets that you can use. E. K.

A NEW MEDICAL JOURNAL.

New medical journals, as a class, are not worthy of note. It is usually necessary for them to keep going for a while before one can get them placed. The exception to this rule is found in the new *American Journal of Physiologic Therapeutics*, of Chicago, of which Dr. Henry R. Harrower is the editor. Dr. Harrower is evidently full of good red blood, and his *Journal* will put a lot of practical things in the hands of the busy practitioner. It is interesting to note that the advertising pages are closed to drugs for internal use, so there will be no chance for him or it to fall prey to the prolific spenders among the proprietaries. Dr. Harrower can be assured that in the end this will pay, as the profession will not be slow to recognize a publication which appeals to them with clean hands, not only in its scientific, but in its commercial department.

THE ANNUAL ORATION.

The Council announces with much pleasure that Dr. Frank Billings, of Chicago, will deliver the annual oration at the Lexington meeting. Dr. Billings is an ex-President of the American Medical Association, of the American Congress of Physicians and Surgeons, and has been honored by almost every other organization to which American physicians are eligible. Of the most distinguished personality, he is as simple and direct as a child, and combines with this a knowledge of medical science and affairs, which makes him one of the real statesmen of our profession. The physicians of Kentucky are to be congratulated upon securing such an orator as a successor to Drs. Simmons and Mayo.

SELECTED ARTICLE

THE OPPOSITION TO THE OWEN BILL.

The Committee of One Hundred on National Health, the organ of the American Health League, in Bulletin No. 41, dated June, 1910, says:

COMMERCIAL INTERESTS OPPOSE NATIONAL DEPARTMENT OF HEALTH.

Judge Lindsey, in his famous articles on "The Beast in the Jungle," has shown how human life and child welfare are ruthlessly sacrificed to commercial interests. The same is true on a far broader scale. One cannot touch the problem of public health at any point without encountering the opposition of commercial interests. The old efforts of the merchants of San Francisco to suppress the news of bubonic plague and of the merchants in Southern States to suppress the knowledge of yellow fever, are classical instances.

But those who are familiar with Health work run into such instances repeatedly. Dr. Wiley pointed out at the Congressional hearing in favor of the Owen bill for a Department of Health that a health officer cannot develop properly unless he is in an environment in which health is the main interest. It is small wonder that the commercial interests do not want an independent Department of Health. They feel safer with a bureau of health, located in a department devoted to commercial interests. Our principal health bureau is now located in the Department of the Treasury, which is—as it should be—more devoted to financial than to hygienic considerations. Our next important health bureau is that which dispenses the Pure Food and Drugs law in the Department of Agriculture, which is another commercial department. The plans for transferring the health bureaus to any other of the existing departments, such as the Department of Commerce and Labor or the Department of the Interior, also have the weakness that these departments are nominated by commercial interests.

"THE BEAST IN THE JUNGLE."

Judge Lindsey is not the only one who has seen the "Beast in the Jungle." The advocates of the Owen Bill to establish a National Department of Health have suddenly encountered in their jungle a wolf in sheep's clothing. As in Judge Lindsey's article, at first the "beast" is not visible, but instead some very respectable, but misguided, people appear on the scene as officers and sponsors for a so-called "National League for Medical Freedom."

This "League" has organized opposition to the establishment of a National Department of Health, large advertisements having recently appeared in New York, Washington, and other newspapers, although they have been taken as a joke in and out of Congress. The advertisement tries to create the impression that the movement is one of a "medical trust," attempting to control the practice of medicine. Mr. Charles W. Miller, an Iowa State representative, has been in Washington trying to bring influence to bear on Congressmen. Mr. B. O. Flower, a Christian Scientist editor, is president of the League.

They seem to have overlooked the fact that the Federal Government has no power to regulate the practice of medicine, or to restrict medical freedom, even if this were intended, which it is not.

Previous to the appearance of this widespread and extensive advertising, Mr. Miller had been loudly stating that the movement for a Department of Health had no strength. Why, then, the need of so much effort to

combat it? It is estimated that their advertisements are costing somebody \$25,000 a day. At this rate, in two or three days they spend more than the American Health League, which has been a potent factor in the movement for the establishment of a National Department of Health, has spent in the three years of existence. The same Mr. Miller has criticised the Committee of One Hundred on National Health, which forms the nucleus of the American Health League, for trying to raise a campaign fund, and for suggesting that the Government should spend more money on public health. The expenditures of Mr. Miller's "League" not only exceed ours, but include three items which we have never included among our expenditures: viz., for the purchase of newspaper space, for the purchase of articles, and for the purchase of the services of legal representatives to appear at the Congressional hearings.

The league for "Medical Freedom" is said to consist of Christian Scientists, Osteopaths, Homeopaths, Eclectics and Anti-Vivisectionists. The advertisements state that to join the league *no fee is required*. Yet they are able to carry on an immensely expensive campaign. Are they willing to state the sources of their income? Simultaneously with the formation of the League, health writers have been approached and offered large sums of money to write against the Owen Bill for establishing a Department of Health. One writer refused what he believed was an opportunity to make two thousand dollars in this way.

TAX PAYERS' LEAGUES.

This attack on the "National League for Medical Freedom" has such a family resemblance to various other attacks, on a smaller scale, which have appeared during the last few years, that we have rummaged through our files for the sake of comparison.

Like Lindsey's "Beast," ours seems to have made its first appearance in Denver. The first among our curiosities of "medical" literature was a venomous pamphlet by a notorious quack of Denver, and purporting to represent the "Colorado Medical Liberty League, an organization numbering 1,300 enrolled members who are tax paying citizens."

This title bears a striking resemblance to the "National League for Medical Freedom" and its associated Tax Payers' leagues, which have at the same time, and within a few days of each other, been "organized" in a dozen or more States. While nominally written by a "drugless" doctor, this pamphlet singles out for attack those men and magazines, such as *Collier's* and the *Ladies' Home Journal*, that have fought quackery and the

patent medicine evil, and have championed the pure food law.

The following quotations show its animus against pure foods and drugs:

"Question. What is the attitude of the Committee of One Hundred in regard to the adulteration of food stuffs and the substitution of drugs as commonly practiced by many commercial concerns?"

Answer. It is against all concerns that do not give the finance committee a rake-off.

Question. What is the attitude of the Committee of One Hundred towards injurious patent medicines?

Answer. It is dead set against all patents which do not contribute to the trust's pocket.

Question. Do any members of the Committee of One Hundred receive salaries or other remuneration?

Answer. Nay, nay, that would spoil our game. They will be taken care of later.

Question. How can additional information, including printed matter issued by the Committee of One Hundred, be obtained?

Answer. In ear lots or less, F. O. B., New Haven, Conn.

Question. What are the publications and pamphlets now or formerly distributed by the Committee of One Hundred?

Answer. They are too numerous to mention—mostly devoted to "exposing" quacks. A quack is any one who is not orthodox according to the dictum of the medical trust.

Question. Why must an organization of citizens be formed to protect the public health?

Answer. Because that is the only way we can fool the suckers into continuing to take patent medicines only as doctor's prescriptions.

This pamphlet refers to the American Medical Association as a "Trust," and composed of "old school fanatics," takes sides with Eclectics, Osteopaths, Spiritual Healers, etc., and ends with the following statement: "If the public does not want to be bulldozed by the medical trust, it will at once file its protest against a national bureau of medicine by writing individual letters to Congressmen, promising to vote out of office all who vote for such a bureau."

In his speech before the Senate May 25th, Senator Owen said:

"I am informed that the sudden and surprising interest of the 'taxpayers and voters' of the United States who are organized in this artificial manner and the active interest alleged or manifested of the 'homeopaths' and of the 'Osteopaths' and of the 'Eclectics' and of the great variety of those who have special views with regard to the various methods of healing the sick has taken place

within seven days, and like a flash of lightning telegrams are coming in from Maine to California. The chairman of the Committee on Public Health and National Quarantine of the Senate received a very large number of them. Such sudden universality of disapproval of the department of public health on such an unsound theory is astounding; it is more, it is extremely suspicious; it is obviously artificial; it is perfectly apparent that somebody is spending a very large amount of money on this sudden propaganda; it can hardly be doubted that somebody, in gross error, is advising the 'homeopaths,' the 'osteopaths,' the 'eclectics' that their right to practice medicine is about to be invaded by the Federal Government."

THE NATURE OF OUR OPPOSITION.

Another pamphlet is entitled "The Political Doctors' Slick Little Joke.—On Congress, on the States, the Pure Food and Drugs act, and the People." The writer attempted to establish the thesis that the Committee of One Hundred is the tool of the American Medical Association and of the Catholic Church! He quotes scripture to prove this. He distributed a sizeable booklet entitled "Roosevelt Steam Rolled by the Bible." He shows that the Committee of One Hundred on National Health was prophesied in the Bible and that the "Medical arm of papacy is really the pivot upon which the old earth of error is to swing into the new heaven and new earth of revelation." In a letter of reference to his book he says, "You may be surprised to know that Taft can be identified in the Bible in more places than the place indicate in my book—the other places are not yet made public. The subtleties of the science of medicine and philosophy are to be confronted by the subtleties of the Bible."

The author of these curious aberrations of mind adds in a postscript, "I want to say if you have any intention of getting me committed to the Government Hospital for Insane, you will be foiled."

This insane literature seems of a piece with the literature of the "National League for Medical Freedom." But now these people seem to have found a barrel of money with which they are "moulding" public opinion. It is easy to understand how quacks and nostrum venders may object to the National Pure Food Law which they are seeking by every means to undo; but it is sad to see reputable and earnest men unwittingly made tools of, and still sadder to see other reputable men sell their services as paid attorneys, and to see writers—unconsciously though it be—prostitute their abilities in the interest

of those vampires who feed upon illness and prey upon the public health.

"LICENSE THEY MEAN, WHEN LIBERTY THEY CRY."

The New York *Times*, which made the mistake on May 17th of printing the advertisement of the "League for Medical Freedom," corrected it on the 18th by the following strong editorial:

"'MEDICAL FREEDOM.'

"Makers of patent medicines, adulterators of drugs, and practitioners of the cults of mental and osteopathic healing are up in arms. They have persuaded a few well-intentioned but misled individuals to join them, and have formed the "National League for Medical freedom" to oppose the efforts of practically all the reputable physicians in the country to consolidate the agencies of public health at Washington into one efficient department or bureau.

"These efforts have been waxing stronger. The men of the American Medical Association and the Committee of One Hundred on National Health, sanctioned by the Association for the Advancement of Science and headed by Prof. Irving Fisher of Yale, have won the approval of the entire press of the United States in urging the passage of their bill. In the various departments and bureaus of the Federal Government are lodged powers that cannot be wielded effectively until they shall be co-ordinated under one head. Once united, they can be used in a great propaganda for educating the people against the habit of self-dosage and a resort to quack medicines for their ailments. By a campaign of prevention the bureau would break the prevalence of epidemics and infections between the States. It would work for the passage of laws that would guard the channels of Interstate Commerce against the admission of adulterated drugs, and for the establishment of standards of purity and strength that would be copied by the States and cities of the Nation.

"The self-styled 'League for Medical Freedom' quotes Prof. Fisher accusingly as having said that the Government might soon be appropriating millions yearly for the conduct of this bureau. If it should appropriate a million for every hundred thousand it now appropriates for the protection of the health of hogs and cattle in the United States, Prof. Fisher's prophecy would be fulfilled, and no one would have cause for complaint but these friends of "freedom." Their cry is an old one and well understood.

"'License they mean, when liberty they cry.'"

WHERE DO THE FUNDS COME FROM?

The opinion expressed in this editorial is general. It is fair to say that the well-intentioned leaders in this League for "Medical Freedom" doubtless do not realize the situation in which they are placed. They may be correct in their denial that their "League" is being financed by patent medicine interests, but they have not yet disclosed specifically the sources of their funds. Requests so to do have thus far been unanswered. From appearances they have spent more in one day than our Committee has spent in a year.

Whatever the source of their funds there can be no doubt that a virtual alliance exists between this league and the purveyors of patent medicines and the opponents of the pure food law.

On the advisory board of the new league is the editor of the organ of the National Association of Retail Druggists, controlled by the members of "The American Drug Syndicate" or the "Drug Trust," which has been so hand-in-glove with the quack medicine interests that many hundreds of its members resigned last fall in protest.

A Congressman, on looking up the occupations of the signers of telegrams against the Owen Bill, found a liberal sprinkling of patent medicine proprietors and vendors.

In this unholy and anomalous alliance between "Christian Scientists" and quack medicines are included the services of some newspapers that rely for revenue on quack advertising. (See our bulletin on "A Century's Criminal Alliance Between Quacks and Some Newspapers," by C. S. Andrews).

COINCIDENCES.

It may be a coincidence, but simultaneously with the appearance of this "league" in Washington, the same lobbyists who had fought the Pure Food Law, also appeared, although not publicly. It may also be a coincidence that at about the same time a certain noted writer on health was offered a large sum of money to write articles to "kill the Owen Bill." Those who approached him for this purpose reluctantly admitted, after first alleging that they represented Christian Scientists, etc., that the patent medicine interests were also behind them.

It may also be a coincidence that one of these afterwards acted as agent to place the advertisement of the "League for Medical Freedom."

It may also be a coincidence that this vigorous effort to prevent the creation of a Department of Health began immediately after the issue by the Department of Agriculture by Dr. Keber against nostrums, in which—

for the first time in history—the names of the "remedies" to be avoided were printed. It would not be strange if the firms that were thus hit hard by the Department of Agriculture should not want to be hit harder, as they might be and ought to be, by a Department of Health.

It may be a coincidence that at this same time a newspaper now actively opposing a National Department of Health sent a reporter to one of the officers of the Committee of One Hundred to inquire what the Committee expected the new Department to do, and whether, perchance, the Committee knew of the nostrum report just made.

It may also be a coincidence that a chemist, interested in food adulteration, came at almost the same time to ask almost the same question.

MISCONSTRUCTION OF FACTS TO MISLEAD READERS.

The eagerness of those who construct these advertisements to mislead is illustrated in many ways. For instance, they have utilized a misprint in the report of one of the hearings as follows:

"Question, What is the Committee of One Hundred?"

Answer, One of its members, Hiram J. Messenger, when asked this question by Senator Crawford of South Dakota (Senate Hearing Owen Bill Page 30) stated, "The Committee of One Hundred is a committee that was appointed by the American Medical Association for the advancement of science."

The word "medical" was obviously a slip of the tongue or of the pen. No one ever pretended before that there was any connection between the American Medical Association and the American Association for the advancement of Science!

MEDICAL CULTS.

The "League for Medical Freedom" does not seem to really represent the leading members of the Schools of Medicine they claim to represent. The foremost members of these various cults have openly favored the Owen Bill. Dr. J. B. Gregg Custis, a Homeopath, who spoke in favor of the bill, is chairman of the Board of Medical Examiners of the District of Columbia and ex-President of the American Institute of Homeopathy as well as of the International Congress of Homeopathy. Mr. George H. Shipley, a prominent lawyer of Washington, whose wife is an Osteopath practitioner and who is himself the attorney of this system of healing before committees of Congress, favored the bill and among other things said:

"As a citizen and a lawyer, I am deeply interested in the establishment of a National

Health Department. Possibly I can help to dispel some of the fears of those who, in other ways, have come into conflict with the American Medical Association.

"There is no possible way whereby any medical sect can secure National Health regulations that will interfere with the State's control of the licensing of the competing schools of healing. It follows that the Osteopathic physicians, the Homeopathic physicians and the Eclectic physicians are in no danger from a National Health Department."

REAL PURPOSE OF DEPARTMENT OF HEALTH.

A Department of Health has really nothing to do with the medical art. It is really for the purpose of preventing diseases by preventing the pollution of streams, by preventing the adulteration of foods, by preventing the importation of bubonic plague and yellow fever, by investigating health conditions and disseminating information. It has been proven that there are over half a million premature deaths yearly in this country. The Owen Bill, if passed, would ultimately prevent a large proportion of these.

FROM OWEN'S SENATE SPEECH.

"As the author of this bill I wish to say that I believe the more a man knows about the laws of health the less drugs he takes. I have employed Homeopaths and Osteopaths and Allopaths as well to treat myself and the members of my family. I have studied the doctrine of suggestive therapeutics and of Christian Science with great interest and respect, and I cordially endorse Horace Fletcher as the best doctor of them all. I stand firmly for medical freedom and for the right of the citizen to select his own medical or spiritual adviser."

THOSE WHO WANT A DEPARTMENT OF HEALTH.

The principle of the Owen Bill, establishing a Department of Health, has been endorsed by the President of the United States, by the Surgeon-Generals of the Army, of the Navy, and of the Public Health and Marine Hospital Service, by Dr. H. W. Wiley of the Bureau of Chemistry, by the Governors of States, by the Conference of State and Territorial Boards of Health, by the American Medical Association, by the American Public Health Association, by the United Mine Workers of America, by the National Grange, by the Republican and Democratic platforms, and by numerous other organizations.

Life insurance companies, who advocate this bill, certainly have no desire to limit medical freedom and repress any system

which offers the chance of lengthening human life. They have no medical partisanship, and their sole interest is to lengthen life by whatever means possible. Their actuaries state specifically that they believe human life could and would be lengthened by the establishment of a Health Department.

GENERAL WYMAN FAVORS DEPARTMENT.

At the May 19th hearing on the Owen Bill, General Walter Wyman, Surgeon-General of the Public Health and Marine Hospital Service, came out strongly and firmly in favor of establishing a National Department of Health. General Wyman has hitherto been non-committal, and the opinion had been entertained generally that he was opposed to the measure.

THE "MEDICAL TRUST."

The American Medical Association has trod on many toes in its efforts to get State legislation enacted. It is natural that enemies thus made should strike back. But in attacking national legislation they are "barking up the wrong tree." Moreover, a great injustice is being done the American Medical Association. It is not a "trust." No one will deny that it includes in its membership the best and ablest men in the profession. It has tended to liberalize rather than to narrow medical ethics and practice. While it has aimed at restrictions, the object has been to prevent the vicious and harmful quack and charlatan from plying his nefarious trade. Naturally it is not infallible, and has doubtless made mistakes, but the present attack upon it will be resented by the large public who appreciate the work of the medical profession, as well as by those who believe in fair play.

FIRST THREE HEARINGS.

A full account of the first three hearings (April 29, a. m.; April 29, p. m., and May 5 a. m., on the Owen Senate Bill (S. 6049) for establishing a National Department of Health has been published by the Government in a pamphlet of 130 pages which can be obtained free of charge, by addressing *The Document Room of United States Senate*. This document gives the statements made by:

Joseph Y. Porter, President of the Conference of State Boards of Health, and State Health Officer of Florida.

Dr. Charles A. L. Reed, Chairman of the Legislative Committee of the American Medical Association.

Lee K. Frankel, representing the Industrial Department of the Metropolitan Life Insurance Company.

Robert Lynn Cox, Counsel of the Association of Life Insurance Presidents.

Dr. William H. Welch, President of The American Medical Association.

Dr. Franklin C. Welles, Medical Director of the Equitable Life Assurance Society.

Hiram J. Messenger, Actuary, Travelers Insurance Company.

Professor Irving Fisher, President of the Committee of One Hundred.

Hon. George Shiras, 3d, Chairman Legislative Sub-Committee of the Committee of One Hundred on National Health.

Brigadier-General H. Torney, Surgeon-General, United States Army.

Rear-Admiral Charles F. Stokes, Surgeon-General United States Navy.

William J. Schieffelin, representing the National Wholesale Druggists Association.

Dr. Wisner R. Townsend, Treasurer of the American Medical Association.

Dr. Luther H. Gulick, Director of the Department of Child Hygiene of the Russell Sage Foundation.

Dr. George M. Kober, Dean of the Medical Department, Georgetown University.

Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry, Department of Agriculture.

Dr. Thomas Darlington, ex-President of the Board of Health, New York City.

Professor W. L. Willecox, Expert Adviser for the Twelfth Census.

Dr. J. N. McCormack, representing the Kentucky Board of Health.

Dr. Cressey L. Wilbur, Chief Statistician of Vital Statistics of the Census.

Dr. Frank Billings, Dean Rush Medical College.

Dr. Woods Hutchinson, Professor of Clinical Medicine, New York Polyclinic.

Of the foregoing twenty-two speakers, thirteen are members of the Committee of One Hundred on National Health. All of these speakers appeared in favor of the Owen Bill.

There were no speakers in opposition. But the strong support and popularity of the movement which these hearings revealed seemed to terrify the opponents of the bill, who proceeded to organize the "League for Medical Freedom."

MAY 19 HEARING.

At the hearing, May 19 (a. m.), which has also been officially reported, the speakers who appeared in favor of the bill were:

Gen. George H. Sternberg, Surgeon-General of the Army, retired.

Prof. Robert S. Woodward, President Carnegie Institute.

Dr. J. B. Gregg Custis, Homeopathic physician, Chairman of the District Board

of Medical Examiners, of the District of Columbia.

Dr. John S. Fulton, Secretary-General of the International Congress on Hygiene and Demography.

Gen. Walter Wyman, Surgeon-General of the Public Health and Marine Hospital Service.

Dr. Cressey L. Wilbur—continued from previous meeting.

Mr. Arthur E. Holder, representing the American Federation of Labor.

Mr. George H. Shibley, a prominent lawyer of Washington, favoring Osteopathy.

A number of letters favoring a health bureau or department were presented from Governors of Southern and other States; also planks favoring such legislation adopted by the Republican National Platform, the Democratic National Platform, and the Independence League. Resolutions favoring such legislation were presented from the Ohio State Legislature. Extracts from the messages of President Taft and former President Roosevelt, favoring such legislation were presented; also resolutions of the American Federation of Labor, United Mine Workers of America, National Grange, New York Grange, and other Granges, the Farmers' Educational and Co-operative Union of America, the American Society of Equity, and numerous scientific and medical societies.

A letter was presented from Dr. Porter, the (Homeopathic) health officer of New York, favoring a National Department of Health.

In the evening the opponents were heard. Ex-Governor John L. Bates, attorney for the "National League for Medical Freedom."

Harry E. King "Ohio Civic League."

Robert M'Carter, representing the National Osteopathic Association.

Henry R. Strong, proprietor National Druggist and Medical Brief.

O. H. Hoss, "Missouri Voters' and Tax-Payers' League."

John M. Reed, "Voters' and Tax-Payers' League of Iowa."

F. A. Banks, "Voters' and Tax-Payers' Association."

W. R. McCaul, "Voters' and Tax-Payers' Association of Wisconsin."

L. H. Collins, "National League for Medical Freedom."

Clifford Grieve, "National Association for Suggestive Therapeutics, and the Weltman Institute of Suggestive Therapeutics."

Hyland C. Kirk.

LATEST HEARING.

The latest hearings on the six health bills

now before Congress—or rather on the five that are now before the House of Representatives—was held before the House Committee on Interstate and Foreign Commerce from June 2nd to June 6th inclusive. Among the speakers for the Hanna and Creager bills, which are the same as the Owen bill in the Senate, were:

Dr. George M. Kober, Dean of the Medical School of Georgetown University.

Dr. Woodward, Health Officer of the District of Columbia.

Ex-Surgeon-General Sternberg.

Admiral Stokes, Surgeon-General of the Navy.

Mr. Hendricks, the noted sanitary engineer of Baltimore.

Mr. Hiram J. Messenger, Actuary of the Travelers' Life Insurance Company.

Miss Mabel Boardman, Head of the National Red Cross.

Professor Irving Fisher, President of the Committee of One Hundred.

Hon. George Shiras, 3d, Chairman of the Legislative Committee of the Committee of One Hundred on National Health.

Dr. J. H. Kellogg, of the Battle Creek Sanitarium.

Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry.

Dr. Cressey L. Wilbur, Chief Statistician of Vital Statistics of the Census.

Major Owen, brother of Senator Owen.

Against the bills appeared, as the attorney of the "National League for Medical Freedom," Mr. John L. Bates, former Governor of Massachusetts, and other attorneys and representatives.

Several members of the Committee on Interstate and Foreign Commerce stated that this opposition had no influence with Congress. On the other hand, the outlook is not favorable for the passage of the Owen, Hanna or Creager bills during this session.

AMERICAN HEALTH LEAGUE MEMBERS SHOULD HELP.

It is important that every member of the American Health League should know that a fight is on. Against us are arrayed the leagues of "Freedom," the quack medicine interests, the newspapers allied (by advertising) therewith, and the able attorneys and editors they employ. On our side are President Taft, Ex-President Roosevelt, political party platforms, medical, hygienic, scientific, educational, philanthropic, insurance, labor, and Grange organizations. While intrinsically we have infinitely the stronger side, our enemies have the great advantage of money. The situation is as serious as in a political campaign in which the forces of evil and money so often triumph. It is another case

of the People against the Special Interests. Each loyal member of our League, and each loyal citizen who reads these lines, should do his part, namely, contribute, if possible, to the expenses of conducting this campaign for establishing a National Department of Health, and write to Congressmen urging their favorable consideration of the Owen Bill.

SCIENTIFIC EDITORIALS.

BREECH PRESENTATIONS. ETIOLOGY AND DIAGNOSIS.

The fact that the child only presents by the breech in about three out of every one hundred labors, makes such an occurrence at least out of the ordinary when it confronts the attending obstetrician and is apt to give rise to some anxiety in spite of the fact that it is classed as a normal presentation by the text books, that is, one in which delivery will take place without artificial assistance if the pelvis and fetus are normal. At best even the uncomplicated outcome of such a presentation depends to some extent upon whether we are fortunate in having the complete breech as the presenting part, or whether the frank breech, a knee or footling is trying to pass through the pelvis.

In the complete breech, with the legs flexed on the thighs, the thighs on the abdomen and the feet crossed, we have the largest bulk of the pelvic extremity dilating the lower segment of the uterus and the soft parts of the mother and that bugaboo in the conduct of breech presentations, delay in the birth of the after coming head, should not usually occur.

When the frank breech presents, then we are not nearly as fortunate. In this condition only the buttocks dilate the cervical ring, the legs of the child being extended straight along its abdomen. Not only does this present a smaller dilating wedge in the first stage of labor, but in the second stage when the pelvic extremity has reached the floor of the pelvis, the extended legs act as a splint and delay to a great extent, the escape of the breech from the vulva, in fact at times may check delivery entirely until suitable measures are resorted to.

With the knee and footling presentation when such a condition presents itself upon first examination we practically have the same factors to contend with that would exist if a podalic version had been performed, only in the latter, we have the condition under control from the onset, with the most favorable position of the after coming head secured by means of the version.

The infrequency of the presentation readily leads to the belief that it must be mainly

due to some abnormality in the shape of the uterus and this contention is borne out by the fact that full term breech presentations are rare in primipara. When one remembers the triangular shape of the cavity of the virgin uterus, with the base of the triangle at the fundus, then one can readily grasp the fact, that the upper end of the pregnant uterus will afford most room for the movements of the extremities of the child, towards the end of gestation and this as is well known is the accepted reason for the natural preponderance of head presentations.

In primipara then, in whom virgin conditions still exist at the time of impregnation, the later presence of a breech presentation must almost be looked upon as an abnormality and no doubt in many instances a suitable explanation for the condition can be readily found.

In the multipara, a breech presentation may occur in any pregnancy. Here the uterus has already been distended. It never again returns to its virgin condition. Its shape for succeeding pregnancies may be altered by inflammatory conditions, or malpositions. The frequency of breech presentations in premature labors is easily explained by the fact that in the earlier months of the pregnancy the fetus does not completely fill up the space in the cavity of the uterus as in the last month of gestation and the freedom of motion that it has in consequence accounts for the frequency of deliveries by the breech.

It must also be remembered, that the child can at times change its position in utero in the last week before labor. At any rate in the writer's experience, a number of cases diagnosed as breech presentations at a previous examination, would enter the pelvis as head presentations at the time of labor.

The diagnosis of a breech presentation would seem easy under ordinary circumstances, that is, with an abdomen suitable for palpation, the absence of the hard round surface of the head above the symphysis pubis should be readily made out and its presence instead at the fundus should be recognized. If you are not palpating a fibroid nodule in the upper end of the uterus by mistake, then the diagnosis is already made. A fetal heart sound loudest above the umbilicus, will be an additional factor in the diagnosis.

Upon vaginal examination in the early parts of labor the presenting part will be high up almost beyond the reach of the examining finger.

During a pain, but little distention of the cervix will occur in the beginning, dilatation

will be slow and later on the bag of waters will not present the firm convex contour characteristic of vertex presentations. A face or transverse presentation could give rise to similar conditions, but these should already have been excluded by abdominal palpation.

Finally when the bag of waters ruptures, the characteristic outlines of the breech should distinguish it from any other part of the child's body. The discharge of meconium under the influence of pain, will definitely settle any remaining doubt.

Whether or not a diagnosis of the relation of the sacrum to one of the four cardinal points of the pelvis in order to determine the position of the presenting part be made or not, can have but little influence upon the outcome of these presentations as in the manipulations in the course of delivery the body can practically be directed to any point desired.

In this presentation both mother and child are to a great extent at the mercy of the attendant. If he is not well versed in the proper manipulations for the delivery of the shoulders and the after coming head, the slight delay may result in the death of the child or hasty and improper tractions, in severe injury to the soft parts of the mother.

EDWARD SPEIDEL.

CONJUNCTIVITIS.

(Concluded from Page 1487).

In epidemic conjunctivitis the organism varies with the epidemic and the locality. In some places the Koch-Weeks bacillus is the most common. In others pneumococcus.

Other organisms that are sometimes met with in acute conjunctivitis are the common pus organisms, streptococci, staphylococci, bacillus of influenza and meningococcus. In membranous forms the Klebs Loeffler bacillus and the streptococcus are seen occasionally.

Diplo-bacillary conjunctivitis does not as a rule give rise to an acute purulent condition, but tends to a less violent reaction or chronic infection.

Let us consider these types of infection in order. The Koch-Weeks bacillus was discovered by R. Koch in 1883 in a series of cases of Egyptian ophthalmia. In 1887 the investigations of Weeks were published.

The geographical distribution of this infection is very extensive but variable in different localities.

Epidemics of this disease sometimes arise with startling rapidity and seem to spread by air infection.

A spray infection has been suggested too as extremely probable, the organisms getting into the mouth by passing down the tear ducts

and back through the nose; passing forward and expelled during talking, coughing or sneezing.

The incubation period is short, from twenty-four to forty-eight hours, and symptoms have been known to appear even earlier. The inflammatory symptoms rapidly reach their height and both eyes are usually affected.

The conjunctiva, both bulbar and palpebral is intensely red as well as the margin of the lids. A profuse mucopurulent secretion collects at the margin and particularly at the inner canthus. The eyes are hot and painful, accompanied by photophobia. In severe cases we may have circumorbital pain, swelling of the preauricular gland and small hemorrhage.

At the height of the disease there is apt to be a slight ecchymosis. Several observers have mentioned a bluish tint of the bulbar conjunctiva as characteristic of this infection.

In an epidemic adults usually suffer more severely than children and in some cases develop corneal infiltrates.

Recent cases promptly treated usually yield readily to treatment. Cases usually clear up in from seven to ten days. Untreated the disease may persist for months as a chronic conjunctivitis. In such cases it is not infrequent to find follicles, especially in the upper fornix, simulating trachoma.

The general health is disturbed only in severe cases from pain and sleeplessness. An accompanying corvza is the rule, but the deeper air passages are unaffected.

These cases are markedly infectious and rigid measures should be taken against the spread of the disease. Children should be kept from school and all cases from intimate association with their fellows.

The indiscriminate use of handkerchiefs, towels, etc., is often responsible for the spread of the disease and should be avoided.

Scrupulous cleanliness should be observed and careful avoidance of direct or indirect contact with the secretions. This applies particularly to those who attend the case.

The best treatment is silver nitrate from one-half to two per cent. followed by argyrol twice a day. The patient is also given a 25% solution of argyrol for use at home three times a day. The silver nitrate is best used by the physician himself. Compresses, either hot or cold are grateful and smoked glasses may be necessary for the photophobia.

BACTERIOLOGY.

The Koch-Weeks bacillus is a very fine slender organism somewhat resembling the bacillus of influenza.

They are found in large numbers at the

onset and up to the maximum development of the infection. They lie both in and between the leucocytes. Under treatment they rapidly diminish in quantity or disappear. The bacilli tend to lie in clusters both within and without the leucocytes.

Secretion is best obtained from the inner canthus or from the cul-de-sac, where secretion is abundant.

This is prepared in the usual way and stained for ten minutes with dilute carbol fuchsin—Nicholles carbol—thionin or warm Loeffler's methylene blue solution.

They completely decolorize with Grams stain and safranin used as a counter-stain colors them but feebly.

In the early stages of an infection the Koch-Weeks bacilli are often found alone. Later they are associated with Staphylococci and bacillus xerosis.

Mixed infections are not very common but in places where trachoma is epidemic these infections often occur giving the appearance of acute trachoma.

The organisms are hard to obtain cultures. Special media are necessary, such as ascitic or serum agar. They are of low vitality and readily die. Results of cultures on ordinary media generally produce xerose bacilli or staphylococci. The appearance of colonies on special media much resemble the bacillus of influenza. They appear after twenty-four to forty-eight hours as moist transparent refractile points or drops.

The bacilli in culture appear as very slender rods of varying length. Long filaments are sometimes seen; involution forms are common. Their vitality is very low.

Regarding the differential diagnosis Morax in his books says: "The Koch-Weeks bacillus will not be confused with any other organism causing conjunctivitis in man by anyone who has experience with it. And further, the smear preparations often give us more information than the cultures.

The one and only organism with which there is a similarity is the influenza bacillus and the morphologically and biologically identical L. Muller's bacillus.

The influenza bacillus causes conjunctivitis at times, but Muller's bacillus is considered by some to be non-pathogenic. It was first isolated from cases of trachoma.

These two organisms closely resemble the Koch-Weeks bacillus. They are all Gram negative and require practically the same kind of media for growth. There are some minor differences in cultural characteristics, but they are not of value for practical clinical study.

In manifestations, however, they present

wide differences. The Koch-Weeks bacillus is a local infection and its cultures are not toxic for animals.

The Pfeiffer bacillus often affects the structures deeper than the conjunctiva and its cultures are decidedly toxic for animals. Jennings and Hill, *Ophthalmology*, October, 1909, report a little over one per cent. of cases of iritis due to this disease.

It may, however, go farther than this and entirely destroy the sight. Rosenbach (Weiner Med. Wochenschrift, Jan. 1909) reports five cases of eye infection due to the influenza bacillus.

Three cases were purulent conjunctivitis which healed in three weeks under nitrate of silver instillations. The fourth case was a subconjunctival abscess, probably metastatic, since the patient had also an acute frontal sinus infection and a retrobulbar abscess.

The fifth case was one of panophthalmitis in which the bacilli were found in the eye.

Fischer, from the eye clinic of Prof. Axenfeld, also reports the action of the bacillus influenza on the eye. The organism was obtained from a case of panophthalmitis and was injected into the vitreous and anterior chamber of rabbits. It was also rubbed into a corneal pocket. His conclusions were as follows.

The organism is capable of producing serious inflammations. The effect is due not only to toxins, but the bacilli are also found in the vitreous.

PNEUMOCOCCI.

It is a fact familiar to all that the pneumococci commonly exist in the mouth without producing any infection except under a special combination of circumstances. Such is also the case with the conjunctiva. We sometimes find these organisms on the normal membrane. At times they produce conjunctivitis in sporadic cases, while at other times it assumes the proportions of an epidemic.

The organism is sensitive and subject to wide variations in virulence. The bodily condition of the host is a very important factor.

The infection is not so widespread as the Koch-Weeks conjunctivitis, but has rather a predilection for northern countries during the cold season. It is frequently preceded by a chill. Notwithstanding this, it is very infrequently associated with a pneumonia and at most an acute coryza accompanies or precedes the infection.

The infection proceeds rapidly, the incubation period being short. The usual redness of the conjunctiva is present, the bulbar portion being intensely injected. The writer has also observed in some cases considerable

swelling accompanied by marked oedema of the lids sufficient to completely close the lids.

Cases vary greatly in severity, from an almost unnoticed redness and thin watery secretion to intense injection, swelling and thick purulent secretion resembling blennorrhoea.

Sometimes small ulcers occur at the limbus cornea, but it is a noteworthy fact that they possess none of the characteristics displayed by the dreaded *ulcus serpens* of the cornea, though caused by the same organism.

While there is the absence of injury in the conjunctivitis, still the widely different course pursued in the two affections, speak for the extreme variations in virulence manifested by this organism. Hemorrhages occur in severe cases under the conjunctiva.

The disease advances rapidly up to its greatest intensity and then suddenly subsides, even without vigorous treatment, in every way similar to the infection of the lungs. The organisms rapidly disappear after the crisis and the disease does not tend to become chronic. A certain degree of immunity seems to exist for a time. There seems to be a definite predisposition among children to the infection. No epidemics have occurred among adults, who are largely immune. False membrane has been observed in some cases; iritis has also been reported.

Inoculations of the disease on the conjunctiva of animals have been but partially successful, but the transference from man to man recorded frequently.

In examining the secretion from a suspected case the organisms can be found in enormous numbers during the development and height of the disease. They are seen in the cells and free and are usually in pure culture. After crisis, xerosis bac. and staphylococci appear. Mixed affections are uncommon.

The capsule is not so apparent as in pneumonic sputum and numbers of the organisms appear round. It is never much trouble though to find examples of the typical lancet shaped cocci. In cultures chain formation is common.

The organisms do not as a rule lie so close together as the pus cocci on account of their capsules. They can be stained with a simple aniline dye and mounted in water which shows the capsule, or one of the capsule stains may be employed. They are Gram positive.

Growth on artificial media is slow and difficult—an alkaline media is required. Cultures soon die and curious involution forms result.

The tendency to form chains in cultures has been spoken of. This has caused some

discussion as to whether the so called streptococcus mucosus was identical with the pneumococcus or not. The question is not definitely settled.

As a rule examination of a smear preparation and finding of the typically lancet shaped cocci will establish the diagnosis. Cultures and animal tests are unnecessary. Absolute confirmation may be had by injecting an animal and isolation of the coccus from the blood.

The silver salt baths form the best treatment. The fact that pneumococci are dissolved by bile salts in bouillon culture while the other cocci are unaffected was used to differentiate the organisms, but also led to the hope that the bacteriolytic action possessed by the bile would prove a specific in pneumococcal infections.

Work by Verderame and Weekers in Prof. Axenfeld's clinic with taurocholate of sodium showed it had a specific action on pneumococci, but when mixed with blood and pus the action was uncertain, while with the living with the pneumococci in the tissues the action would be still less marked.

They therefore conclude that the cholates can not be relied on in severe pneumococcal infections and especially not in cases of ser-pent nleer.

DIPLO BACILLARY CONJUNCTIVITIS.

Morax Axenfeld type.—This organism was first discovered by Morax in 1896. His observations were confirmed about one month later by Axenfeld, who had found the same organism during work undertaken independently.

Following these publications the disease was at once recognized in many different localities.

It was first thought to be only a chronic conjunctivitis, but the observation of acute cases and some with corneal involvement lead to a change of views.

The every age is susceptible; it occurs most frequently in adults.

In contrast to the Koch-Weeks infection, cases are more frequent during the hot and dusty seasons of the year and in the outlying country districts away from the centers of population.

Infection takes place by direct and indirect transference of secretion. The nasal mucous membrane, which is frequently affected, plays an important role in disseminating the disease.

Occasionally an acute onset is seen with the usual symptoms, but as a rule it is sub-acute or chronic character. Both eyes are usually affected, though not at the same time.

The disease is essentially a blepharo conjunctivitis.

There is reddening of the margins of the lids as in eczema; the palpebral conjunctiva is reddened and both canthi. The caruncle which is highly inflamed, is of a bright red color. The bulbar conjunctiva shows only slight injection.

Corneal complications occur occasionally as a marginal infiltrate, though severe ulcerative keratitis has been reported.

On the other hand some cases are so slight that the patients only complain of the eyes burning on close work under artificial light and they may be mistakenly treated for asthenopia.

In long continued cases ectropion, distichiasis and eczema of the lids may result.

Secretion however slight, is best obtained from the region of the caruncle where the organisms are especially numerous. They are also obtained in the white serum that is seen at the center and along the edges of the lids and while this material is usually contaminated with other organisms and unsuited for cultures, it is serviceable for smear preparations.

Nicallis carbol thionin is the best stain, but the organism takes the ordinary stains.

The bacilli are rather short and thick. They occur chiefly in pairs, though chain formation is not uncommon. The ends are rounded. Polar staining does not occur. The presence of a capsule is a mooted point.

The organisms can be cultivated only on media containing body fluids. The organisms liquify bullock blood serum in a characteristic manner forming pits on the surface. This is the only conjunctival organism that will do this except the closely allied Petet's organism.

The organisms on young cultures resemble the ones seen in the secretion, but degeneration rapidly sets in and involution forms occur. The organism is of feeble vitality and rapidly dies out in culture; conjunctival secretion on linen resists longer but the organism can not resist complete drying.

The organism of Petet is slightly smaller than the one just described; it liquifies gelatin and grows easily on all culture media. It causes a more virulent infection and is found chiefly in cases of complicating hypopyonkeratitis.

These organisms seem to be pathogenic only for man, in whom they produce characteristic inflammations. Since it is capable of growing in the deeper structures of the globe and since the infection of the conjunctiva is often so slight as to pass unnoticed, one should be on his guard for such cases before opening the eye ball.

The diagnosis should present but little difficulty. All other conjunctival bacilli differ radically in shape and staining and cause radically different symptoms as well.

The treatment, which is sulphate of zinc in $\frac{1}{2}$ to 1 per cent. solution, should be used freely and kept up after the symptoms have subsided to insure against recurrence.

The zinc salts have proven efficacious in cases with corneal involvement, but they must be used very frequently and persistently.

Since the nasal mucous membrane is often affected, it is well to institute measures to cure that also, both for the comfort of the patient and to prevent dissemination of the disease.

The Klebs-Loeffler bacilli causes a membranous infection of the conjunctiva just as it does in the mucous membrane of the air passages. Such ocular infections are rare, but when they occur are apt to be severe and fraught with great danger to the eye. Prompt examination of the secretion with the finding of the characteristic bacilli with polar staining and early growth on Loeffler's blood serum makes the diagnosis and indicates the use of antitoxin in liberal doses.

Local Measures.—Applications of nitrate of silver and attempts to detach the membrane result in harm. Applications to the closed lids, however, to relieve the intense oedema or boardy infiltration are useful.

The one to two per cent. solution aluminum acetate is most useful in these cases applied on cloths to the closed eye lids.

We will not discuss here the differential diagnosis between diphtheria, pseudo diphtheria or xerose bacilli.

Such investigations, while interesting from a scientific standpoint have no particular clinical usefulness.

The finding of the bacilli in the membranous infection and rapid growth on Loeffler's blood serum should be sufficient to establish a diagnosis.

The streptococcus is the next most frequent cause of membranous inflammations.

The infection is apt to be severe and may cause necrosis of the conjunctiva and grave danger to the cornea. By secondary sepsis it may also involve life. Like the pneumococcus it also tends to produce iritis.

These cases occur chiefly in greatly debilitated subjects; in poorly nourished infants; hereditary syphilitics or those with greatly lowered vitality from intercurrent disease.

The secondary inflammations of the eye in measles and scarlatina are often due to this organism.

While severe cases of infection with the pneumococcus Koch-Weeks bacillus and oth-

ers may give rise to the formation of a membrane, it is but superficial and easily detached and never constitutes the severe infiltration with necrosis seen in Klebs-Loeffler and streptococcus infections.

The examination of the secretions should readily make the diagnosis. Cocci occurring in chains—positive for Gram—without a capsule—growing on ordinary media and forming long chains in the water of condensation and especially in bouillon should constitute the salient points. These infections are very rare, and seldom observed except in cases of severe epidemics of the infectious diseases of childhood in the presence of which one should be on the lookout for them.

The following reports emphasize the severity of these infections. S. Weigelin, eye clinic, University of Tuebingen, reports: A child aged four days was brought to the clinic with history of discharge from eyes for two days. The lids were swollen and very hard, conjunctiva red and swollen, cornea clear. Secretion purulent, moderate in amount, contained many streptococci. Child died next day. Anatomical examination revealed an extensive invasion of the eye by streptococcus.

A. Dntait, *Zeitschrift fur Augenheilkunde*, 1908, B. XIX, P. 341, reports a case of a boy sixteen months, whose right eye was burned with milk during the incubation period of scarlatina, which erupted the following day.

A violent conjunctivitis supervened with involvement of the cornea ending in total staphyloma. Streptococci were found in enormous quantities in the secretion.

In the matter of treatment the writer has had good results with the anti-streptococcus serum. Local measures consist simply in cleanliness and one of the milder silver salts, such as argyrol 25% four or five times a day. Hot applications are also very grateful.

Meningococcus involvement of the conjunctiva is another rare form of infection. Sporadic cases are infrequent infections taking place usually during the epidemic. The infection is apt to be severe, involving the cornea and deeper parts of the eye ball. Meningococci can be obtained from the secretion as Gram negative diplococci resembling the gonococcus, but larger as a rule similar to the micrococcus catarrhalis.

The safest means is to diagnose these by cultures, though it is hard to believe that a mistake could occur in the diagnosis, since the symptoms produced by similar organisms are so different from this.

Hanford McKee, *Oph. Rec.*, Sept., 1908, reports seven cases of epidemic cerebro spinal meningitis with eye symptoms, one of metas-

tatic ophthalmia, the other of conjunctivitis. He emphasizes the fact that cultures must be made for the complete identification of the organism.

It is to be emphasized that the meningococcus produces a severe form of conjunctivitis and entails grave fears for the safety of the eye, yet the effects of the disease as manifested elsewhere in the body are so grave that the eye lesions almost fade into insignificance before them.

It is to be hoped that the serum of Flexner will be still further perfected, so that we may have a ready weapon against this terrible affliction. Regarding the serum, the admonition that it must be given early if we expect to get results applies not only to this but all other curative serums.

It seems to be the case here even to a greater extent than in other diseases. Too often these remedies are used in a half hearted way after the disease is in full sway. A dose is given, possibly once with very little result. The treatment is abandoned and another doctor says he don't get results with the serum treatment.

Of course he don't, but it isn't the fault of the serum. He didn't use it right; the only way that one can count on results in this therapy is to give it at the start in full doses and repeat the dose until we get our patient under its influence, just as we would in the use of a drug.

The staphylococcus can not be said to be the causal agent in cases of acute conjunctivitis; it is, however, a habitat of the normal conjunctiva and its members are enormously increased in the presence of other infections, especially in the declining stages of it.

They are usually associated with xerose bacilli and whether these organisms are capable of setting up a mild form of chronic conjunctivitis with eczema of the lid margins is a mooted question.

While cultures of this organism placed on the conjunctiva have failed to produce an inflammation, it is by no means certain that virulent cultures of *Aureus* can not do so and these organisms have been isolated from cases of membranous conjunctivitis.

However, to quote again from Axenfeld. "The occurrence of staphylococci with or without *B. Xerose* in a smear from a simple conjunctivitis is important in that it shows that we have to deal with a non-contagious process; or else with an infection the cause of which has not been discovered. We can make the general statement that staphylococcus on the conjunctiva is not contagious."

It seems unnecessary to go into the bacteriology and staining reactions of this well known organism.

It must not be supposed from the foregoing that staphylococci are never factors in the eye infections. In an article in the *Ophthalmoscope*, August, 1908, Mayan reports fourteen cases of staphylococci infection of the eyes treated by vaccines; eight cases were extra ocular. The vaccine used was the mixed staphylococci and not over five hundred million should be given at the first dose and the dose should not be repeated under ten days or two weeks.

Good results were obtained in some cases by this treatment, but not in all; the good results with staphylococci vaccine in other conditions makes it worthy of a trial.

Locally the silver preparations have a good effect.

There are other organisms that occasionally cause conjunctivitis and deserve mention.

The bacillus coli communis has been isolated chiefly in cases of ophthalmia neonatorum. Its presence here being easily explained as an infection during parturition.

Pseudo membranous inflammation has also been reported as due to this organism.

Friedlander's pneumo bacillus or the bacillus mucosus capsulatus has been reported frequently in the recent literature as the cause of conjunctivitis. Only sporadic cases have been observed, never as epidemics.

The organisms often play an important part in diseases of the lachrymal sac.

The pneumo bacilli are large capsulated organisms that grow readily on all media and at room temperature. They are discolored by Gram's stain. The capsules are very distinct.

Careful comparison with the organisms previously described should prevent confusion in the differential diagnosis.

The bacillus subtilis has also been observed as a cause of conjunctivitis though rarely.

The occurrence of the above organisms on the conjunctiva is important, chiefly from their ability to at times infect and play havoc with the deeper structures of the eye. Their presence is undesirable in view of any contemplated operation on the eye and local antiseptic treatment should be instructed to remove them.

Several infections of the conjunctiva with glanders have been reported, changes occurring in the nose and mouth later.

Chancroidal infection and isolation of the streptobacillus of Ducrey from the secretion has been reported.

McKee, *Montreal Medical Journal*, reports a case where he was able to demonstrate the spirochaeta pallida from a mucous patch on the conjunctiva.

The organisms found in the conjunctivitis of the acute exanthemata are generally ac-

accredited to secondary infection. The influenza bacillus, pneumococcus, streptococci, staphylococci and bacillus xerose have been found in such cases.

The severity of the infection is dependent upon the epidemic, kind of organism present and the resistance of the patient. At times these infections become very serious and threaten the integrity of the eye. Whether they are primarily manifestations of the unknown causative element with other organisms added, a symbiosis, or an accidental infection in a tissue of lowered resistance is yet to be determined.

In phlyctenular conjunctivitis staphylococci are regularly found in the blebs in the late stages. In the earliest stages findings are usually negative. Inoculation with the organism will not produce the disease. In a large proportion of such cases the opsonic index for tubercle is low and the disease is improved as this index is raised.

The probably correct explanation is that there is a bodily dyscrasia with general lowered resistance to infections and that staphylococci that remain on the healthy conjunctiva as harmless, readily infect the little vesicles which are the expression of the disease.

Three diseases remain to be considered; slightly similar in the general appearance on the conjunctiva, but radically different in cause.

The first of these is spring catarrh or vernal conjunctivitis, which comes on without known cause at the advent of the warm weather and persists until the following fall, when all trouble as a rule disappears to recur the following spring.

The disease is characterized by the growth of granulations having the appearance of pavement blocks, especially on the surface of the upper lid. The limbus is surrounded as a rule with a ring of milky tissue and slight injection of the conjunctiva is present.

A thin discharge is the rule and there is a varying discomfort to light and prolonged work.

The cause of the disease is unknown and except for an occasional cure reported by the X-rays, treatment is unavailing.

Parinaud's conjunctivitis, first reported by him in 1889, is a rare disease also characterized by large granulations forming on the upper fornix, some being very large. There is marked swelling of the upper lid with oedema of the conjunctiva and occasionally corneal changes with ulceration.

Involvement of the preauricular lymph glands occurs early showing its infectious nature.

It usually affects one side only, occurs more frequently in the autumn and in the

temperate zone. Some observers have tried to show that it was an animal infection by tracing some of the cases to a close association with domestic animals.

The cause of the disease has not been definitely determined, though Scholtz has isolated a bacillus which he claims to be the causative agent.

The treatment consists in general antiseptic measures with astringents to shrink the granulations; occasionally it is necessary to excise them.

Tubercle of the conjunctiva occurs in two forms. Ectogenous and endogenous infections. Endogenous infections are of course more serious, being secondary to other tubercular processes.

The ectogenous infections may occur however from tubercle bacilli being deposited on the conjunctiva from dust, as in the lower cul-de-sac and an infection result.

The appearance is of grayish ulcer with indolent granulations and small nodules (tubercles) around the borders.

The disease varies greatly in severity. It may remain nearly stationary or may result in a complete ulceration of the lid and loss of tissue. It attacks but one eye as a rule. There is very little pain. There is swelling of the lids, purulent discharge, diminution of vision, and involvement first of the preauricular lymph glands, later those in the cervical region.

Excision of a piece of tissue will reveal the presence of tubercle bacilli, giant cells, caseous or military tubercle.

Injections of guinea pigs and inoculation of rabbits will produce the characteristic lesions.

Treatment is of course largely general in cases of secondary involvement coupled with such bland antiseptic local measures as seem necessary from time to time.

In primary lesions excision, enrettement and cauterization with carefully graduated doses of tuberculin constitute the treatment.

I desire to make acknowledgement to Axenfeld's Bacteriology of the Eye, translated by MacNab, from which I have taken freely in the preparation of this article.

GAYLORD C. HALL.

Intraperitoneal Shortening of Round Ligaments.—Latzko's technic is readily seen from the four illustrations. The round ligaments are taken up in a loop which is sutured to the uterus along the median line. He has applied this technic in 100 cases of retroflexion, with faultless functional results in every instance, even with subsequent pregnancies.

ORIGINAL ARTICLES.

ADDRESS TO NURSES.*

BY W. E. SENOUR, BELLEVUE.

We have assembled this evening in commemoration of a most important event in the history of your lives. These exercises mark the beginning of independent work, the commencement of personal activity in your chosen profession. To-night, we admit you as helpers in the great cause of medicine, as allies in the war against disease, and as co-workers for the betterment of the human family.

We welcome you to our ranks and *admonish you to vie with us* in the effort to drive disease from the face of the earth.

If any of you should ask me, to-night, how to make your success in the great professional struggle more certain, more rapid, and more complete, my answer would be, first, last, and in the midst of all, you should as women and as nurses, found your expectations of success upon your personal and scientific qualifications, and keep whatever is honest, whatever is true, whatever is just, and whatever is pure foremost in your minds and be governed by it. Guided by these four cardinal virtues, you can not fail to reach the highest standard of your profession. You will reap the reward for which you have labored so earnestly during these three years just closing, and you will attain as much of the ideal as is possible among the children of men.

While you may not gain the fame of a Florence Nightingale, you can be upright, noble-minded women, conscientious in the discharge of duty. I beg of you to remember the precepts which have been inculcated in this institution since it first started on its mission of humanity and benevolence, to be true to its teachings and exemplify them in your work. Let them add courage to your determination and be a guiding star of good cheer and promise throughout your lives.

Ever since the first mother called to her assistance her neighbor, whose experience and understanding were greater than her own, there has been a profession of nursing.

Through all the years that preceded our modern era, years in which many doctrines have run riot, nursing has been slowly, but surely, developing. In your profession, like all others, growth and development are inevitable. The passing years bring increased wisdom; old methods are being modified and expanded—all keeping pace with the general

development of knowledge. Education is the watchword of our civilization. All the world's a school. *Go where you will*, you will find but two classes of people—the teachers and the taught.

Up to this time, your names have appeared upon the roll of the latter, but from to-night, you will be classed with the teachers, and, as such, you will find an unlimited scope for missionary work. The demand for popular education was never so urgent as now. We are all eager to exchange ideas, and whenever we are not talking into the transmitter, we are pressing the receiver close to our ear. In my opinion, the education of the ideal nurse should begin in the home of a father, who has to work, and a mother, who knows *how* to economize.

If any of you have been thus environed, you are exceedingly fortunate. *It is here* that the seeds of industry and economy are sown, which bear abundant fruit later in life. The subtle and mysterious influence of the home we can not fully comprehend. Its power we can not definitely measure. Yet it has been, and will ever continue to be, the dominating influence and prevailing force of all individual life. It is the most imperishable of all institutions, and upon its sanctity, the safety of all nations must rest.

As you leave this training school to cast your lot with your sisters in alliance with the great profession of medicine, we urge you to avail yourselves of every opportunity for improvement and advancement in your chosen calling. Join the nursing Societies of your community, and if none exist, induce your sisters to join you in founding one. Every page of history teaches the value of organization.

Organization gives protection to your profession and to its members. Intelligent co-operation between individuals for the accomplishment of a given purpose has marked every step of human progress.

A good society is a Post-Graduate School, and next to actual experience, there is *nothing* so valuable to the beginner, for there the collision of *mind with mind* and *thought with thought* in friendly discussion awakens reflection and deeper reasoning, increases your intelligent grasp, stimulates the mental digestive power, makes you more liberal, and *enlarges* the scope of both the speaker and the listener. There you meet your sisters upon common ground, grasp each other by the hand, compare investigations, experiences and opinions by free discussions. Subscribe for the latest and best nursing journals and scientific publications, read and digest them carefully, and then keep abreast of the discoveries and theories of the passing hour. If

*Delivered to the graduating Class, Speers Memorial Hospital Training School for Nurses.

you would be most efficient nurses, you must cultivate every capacity you have. Every day of your lives should be fruitful of self-development and self-culture. You can not be too skillful or too highly trained. To my mind, the one great thing in life is work. That is the ideal with which you must start. It is the greatest cure for all the miseries and maladies that beset mankind. Work is life, and I trust you will leave this institution glorifying work. As teachers, you must educate the public concerning the laws of health, disease, hygiene, and prophylaxis. In this field, you have unlimited scope. Teach the laymen the value of pure air, pure water, and pure food. Teach them that contagious diseases are preventable and that school inspection is a necessity. Then the people will demand that their little ones in public schools shall be protected against disease and deformity, which often leave them invalids and cripples. Respond promptly to the call of duty. Be it in the crowded hospitals, the private home, the public schools, the factory, or the poor districts of our large cities, teach the people that you are not only nurses, not only ministers of health for the sick, but apostles of hygiene for the well. *You* are in a position to make the world better or worse. Every one of you will leave the world definitely altered by your acts while here. Your influence is *not limited* to the individual patients you nurse. I dare say that many an individual who has never seen a trained nurse is cared for the better, because of the general improvement in the care of the sick which your profession has taught.

When nursing the sick, always remember that you are dealing with bodies inhabited by minds that have variable emotions, strong passions, and vivid imaginations, which sway them most powerfully in both health and disease. Also remember that the mental and moral management of the sick is often more difficult than the physical. Study the patient first, his symptoms afterwards. Mind and spirit react upon the body. It is impossible to separate them, and this is not only true in mental diseases, but every illness to which human flesh is heir. How often have you observed that a contented mind is a factor that makes for health. You have likewise observed the evil effects of worry. You have frequently seen cases when a strong desire and determination to live have carried patients safely through the dark valley more surely than any drugs or treatment. Be hopeful, for hope is the pillar of the world. Hope creates new ideas, generates new expedients, and leads to fresh endeavors. The ability to keep confidence and hope alive in the breast of *your* patient and his family is

a great one. Console their bodily pangs and mental anguish; have compassion with the family in their doubts and forebodings. Protect your patient against ignorance, against uncleanness, against infective fever and worry, against his natural enemies, and against those who love him and, in their ignorance, do him untold harm, while trying to do good. In their anxiety, they are anxious that every remedy suggested by meddling neighbors be tried, for, unless something is being done all the time, they fear nothing is being done. Guard with Masonic fidelity the private matters of the household, for the reputation of the home must be kept inviolate. What is said or done there is not for the eye or ear of the outside world. As a result of the stupendous development of modern medicine and surgery, the demand for the trained nurse has become most urgent.

You have been trained to subject yourselves to the demands of duty, to observe and note the course of disease, to keep a correct record of all the facts and events that transpire during the absence of the physician; to recognize improvement and to appreciate serious symptoms as they develop, to perform many personal acts, which modern medicine has developed in the struggle against disease.

In concluding this, my farewell message, I cannot refrain from making a few suggestions, which I trust may furnish some food for thought, as you take your departure.

The battle of life is not simply the events of school days and college hours, but the after performances that prove the nurse.

Nurses are educated in training schools and hospitals, but tried in the world. In the selection of a location, I would advise you to choose one that is best suited to your tastes and desires, a place you would like to live. Wherever you may go, the more perfectly you can adapt yourself to your environments, the greater will be your success. Wherever you go, take with you the endorsement and good wishes of the officers and teachers of the training school.

You go forth to-night as angels of mercy to minister to one and all alike. Whether you administer to the prince in his palace, the peasant in his cottage, or the outcast in his hovel, whether you administer to the man of religion, the man of law, or the man of science, whether you toil in the crowded hospital of some Eastern city or wage war against the great white plague under the tents scattered along our Pacific slope, or teach the laymen residing upon the burning plains of the Sunny South the danger of infection from flies and mosquitoes, or nurse back to health the sturdy Esquimaux of the blood-chilling regions of the bleak and barren

North, wherever you may locate, upon your shoulders shall be placed stupendous responsibilities, the care of human life and through it often times the salvation of an immortal soul.

You should, therefore, bear in mind the importance of your trust, and the divine mission of your ennobling profession, and striving at all times to make your character and methods as faultless as possible, and let no word ever escape your lips unsuited to the occasion.

Imitate in your zeal the untiring devotion of the noble Sisters of Charity, who give themselves entirely to the labor of love, and who have laid upon the altar of suffering humanity their fortunes and their lives.

PELLAGRA WITH EXHIBITION OF CASE.*

BY ROBERT L. BONE, MADISONVILLE.

My incentives for a paper on this subject are several and weighty ones; not among the least, is the growing importance of pellagra as evidenced by its widespread prevalence since its first recognition in this country, in 1907, cases being reported not only from the Southern States, but West and Middle West as well; and the belief by those best competent to judge, that there is at the present time, at least ten thousand cases in the States. Also, owing to its recent recognition in this country, the dearth of information in textbooks, and, until very recently, in current literature, has left the profession, as a whole, without the necessary data for making a diagnosis; the want of appreciation of the growing importance of the subject; and, judging by the experience of European countries, the fact that it may become a health problem of grave national importance with us; these reasons and the fact that I am so fortunate as to be able to bring before you a typical case are my excuses for the paper.

HISTORY.

Pellagra, no doubt, existed many years in Europe before it was recognized as a distinct disease. Its first appearance as a distinct disease was about 1780, though in 1735 it made its appearance in Spain. In a few years it spread to France, Italy and other parts of Europe, and is now epidemic in several parts of the world. Of recent years Italy and Rumania have been the greatest sufferers, it being estimated that each of these countries has to-day not less than fifty thousand

cases. Frapolli was the first to apply the name, "Pellagra," signifying rough skin, about 1771.

While it has undoubtedly existed in this country for years, still the appearance must have been speradic, for such a fatal malady as the epidemic of acute pellagra now existing in the Southern States could not have been long overlooked. To G. H. Searcy, of Alabama, we are indebted for the first positive report. He recorded an epidemic of eighty-eight cases in State Hospital for colored insane at Mt. Vernon. Of this number fifty-seven died. In 1907, J. T. Searcy reported nine cases from the Bryce Hospital, Alabama; followed by a sporadic case from Texas by T. C. Merrill, and at the last session of the American Medical Association R. H. Bellamy reported ten cases seen by him in Wilmington, N. C.; also Babcock recently described twelve cases. In July, 1909, Dr. J. A. Albright, Secretary of State Board of Tennessee, reported to the Bureau of Health and Marine Hospital Service that pellagra was thought to exist in the Baptist's Orphan Home, at Nashville, Tennessee, and requested that an expert be sent to determine if such be the case; also a similar request came from the county asylum at Dunning, Illinois. Past Assistant Surgeon Lavender was detailed for this service and reported fifteen cases at Nashville and three at Dunning. Up to this time the disease had been reported from the Southern States only. In August, 1909, the disease was reported to the Bureau from the General Hospital for the Insane at Peoria, Illinois, with the request for an expert to confirm the diagnosis. Dr. Lavender went to the place in August and reported a large number of well marked cases. So far as I can ascertain, this is the first case reported from this State. The above facts serve to give some idea of the extent and prevalence of the disease in the United States.

ETIOLOGY.

While pellagra has been studied carefully for two centuries abroad, and since 1907 in this country by the ablest talent, and foreign literature on the subject is very voluminous; but with yet no entirely satisfactory conclusions as to etiology. There is, however, a very universal and profound conviction that the disease is in some definite way connected with Indian corn or its products as an article of food. This hypothesis is almost as old as the history of the disease itself. Lombroso, one of the greatest authorities on the subject, after more than twenty-five years of study and observation, states the doctrine which has had the most pro-

*Read before Hopkins County Medical Society.

found effect. Briefly stated, his hypothesis is, that pellagra is the effect of an intoxication produced by a poison developed in spoiled corn, through the action of certain micro-organisms in themselves harmless to man. These micro-organisms, however, have never been satisfactorily identified, and the chemical poisons to which they give rise, have never been successfully and satisfactorily isolated and described. It goes without saying that there are numerous other theories extant, which would be unnecessary to give in a brief paper, such as this. Suffice to say that Lombroso's theory has the weight of authority. To sum up briefly, the belief that there is an etiological relation between pellagra and the use of corn as food would seem too universal to permit of its rejection without adequate proof to the contrary. As to the exact nature of this relation, there is much doubt, and the problem must await further development for its final solution.

PATHOLOGY.

The morbid anatomy of this disease is neither constant or characteristic. The most essential and important feature are changes in the spinal cord. Generally degenerations in the lateral columns in the cervical and dorsal regions.

TYPES.

The disease appears essentially in two forms. In one, the chronic, we have the typical picture described by the Italians; symmetrical erythema, more especially of the exposed portions of the body, which appears usually in the early spring, is associated with stomatitis, diarrhea, often some gastric disturbances, followed by cord symptoms of various kinds, and finally by mental disturbances of varying degrees. As summer advances the symptoms usually disappear only to reappear with the following spring. With each recurrence, the impression on the nervous system becomes more indelible, the cachexia more marked. The average duration of the chronic cases is about five years.

The acute type of pellagra, called by Lombroso typhoid, differs very much from the chronic or common form, and runs its course from three weeks to three months and invariably ends fatally. The patients usually dying before any marked nervous changes appear. So far over fifty per cent. of cases observed in this country are of the acute type.

SIGNS AND SYMPTOMS.

A prodromal stage is admitted by all writers on pellagra, which usually begins about Christmas time, and is characterized by rather undefined symptoms, such as anorexia and voracious appetite, pain and sensation of

burning in the region of the stomach, frequent diarrhea, intense thirst, followed by headache, chiefly occipital, pain in back and neck. Some writers consider sensations of dryness and burning in mouth and heat in the stomach the first symptoms of the disease; however, these symptoms present nothing peculiar; but we have learned when our patients complain of headache, vertigo, sensations of weakness, together with diarrhea, to be suspicious of pellagra, especially if the season be late winter or early spring. These pellagrous symptoms may exist one or two months before the characteristic erythema makes its appearance. This, of all the signs and symptoms, is the most characteristic. The erythema almost invariably makes its appearance in the spring, though sometimes as early as mid-winter or as late as mid-summer. The greatest number develop in April or May. The uncovered portions of the body, as the hands, face and neck, are more apt to be affected and in all cases are the first. The backs of the hands are invariably the first situation of the lesions and in this situation is very characteristic, and is usually of itself sufficient for a positive diagnosis. The first appearance is often taken for sun-burn, or as in the case I will presently show you, "chapped hands," and no two conditions could more resemble each other. One other point of great diagnostic importance is the line of demarcation between normal and diseased skin are absolutely symmetrical, in position and direction. The points of greatest intensity are usually the skin over the knuckles or tip of styloid process. The lesion usually begins at the end of the first phalangeal joint or dorsal end and extends upward to the junction of the lower and middle third of the forearm. The general appearance is that of diffused redness without swelling; but in some cases the swelling appears before the erythema. The condition terminates in dry exfoliation or there may appear blebs which rupture, leaving raw surfaces, which soon become covered by a crust. The appearance of the skin after healing is variable. It may be soft and velvety, but there is always more or less deposit of pigment, which increases with each recurrence. Occasionally, but not often, it extends to palmar surface. After the hand, the face is most apt to be affected, and perfect symmetry is maintained here just as in the hand lesions. Usually the outer canthi of the eye or angles of the mouth are first involved. Sometimes the forehead and bridge of the nose, as in the case before you. Also it may occur on the back of the neck. The next most frequent point of election is back of feet and may occasionally be found on the sternum. The resulting pigmentation

varies from a yellowish tinge to deep brown, depending on the number of attacks.

The stomatitis usually appears after the skin lesions, but sometimes before. It is a very characteristic symptom and seldom fails to appear at some stage of the disease. The patient complains of a salty taste and burning sensation in the mouth. The patient I present has a marked aversion to salt.

The stomach is variously affected. In some normal acid values, in others it is absent, or increased. Pyrosis, eructations, vomiting and anorexia together with intense thirst frequently exists.

One of the most pathognomonic symptoms is an obstinate diarrhea, which is very intractable and sometimes of a dysenteric character with severe colic.

In the acute form the nervous disturbances are no more than ordinarily occur in any profound toxemia. In the chronic variety it is difficult to say when to expect them. The first nervous symptoms are usually paresthesias, as itching of backs of the hands, burning sensations in the epigastrium and cold hands and feet. Even in mid-summer it is no unusual sight to see the patient hovering over a fire in an effort to warm the hands or feet. Vertigo, slowness of ideas and irritable depression, later, disturbances of perceptions with hallucinations. The gait is simple paralytic, occasionally paralytic-spastic, but never ataxic. The tendon reflexes vary, sometimes normal, at others increased.

While pellagra is described as a feverless disease, more extended observation of the cases occurring in the Southern States, shows that during the active state, there is almost invariably a moderate elevation of temperature.

The urine shows nothing characteristic.

There is still some difference of opinion as to whether there is a pellagra without skin manifestation, called by foreign writers, pellagra sine pellagra, but recent observations seem to confirm the belief that at some time, in all cases, the erythema is present; but it may be so faint as to escape observation. All however, agree that the extent of the eruption is no gauge of the severity of the disease.

DIAGNOSIS.

Well marked cases, provided we are on our guard, should never escape detection, even by one who has had no experience with the disease. The pathognomonic signs and symptoms, such as the erythema occurring in peculiar locations, sharp line of demarcation between diseased and normal skin and, above all, the perfect symmetrical extension associated with severe stomatitis, intractable diarrhea, emaciation, weakness and nervous

symptoms are so characteristic that even he who runs should read. It is only in those minority cases where the erythema is absent at the time of coming under observation, that we should experience any trouble in arriving at a diagnosis. Usually a more extended observation and attentive study of these cases will clear up the great majority.

PROGNOSIS.

The prognosis in this country is very grave, as is usually the case when any infective disease is grafted on virgin soil. The fulminating type is practically hopeless. In the chronic form the mortality is variable and it is yet too early to estimate.

COMMUNICABILITY.

The disease, by practically all the authorities, is not considered communicable.

TREATMENT.

The treatment in the acute type is of no avail. In the chronic cases it is possible that cure may result by nature's aid and general tonic treatment. Quite recently Dr. H. P. Cole, of Mobile, Alabama, has published his results in twelve cases, in which he employed direct transfusion from an artery of the donor, a cured pellagrin, to a vein of the patient with encouraging results, but it is yet too early and the cases too few to form any deductions as to the value of this method.

Naturally, never having had any experience with pellagra, the case exhibited to you only recently come under my care. I have been forced to draw liberally upon other writers for the data given. And I wish, here to acknowledge my obligation to the able paper read by Dr. Edward Jenner, of Wilmington, N. C., before the College of Physicians of Philadelphia, which is by far the most able, concise and instructive article I have seen on the subject. I wish also to acknowledge my indebtedness to the recent annual report of the Public Health and Marine Hospital Service for a part of my information.

REPORT OF CASE. FAMILY HISTORY.

Davie H., female, age 20 years, American parentage, born, reared and lived all her life in this county. Father living, robust health, age 43 years; mother died at age of 25 of phthisis. One sister 18 years old in perfect health.

PERSONAL HISTORY.

Patient had the usual diseases of childhood; during the month of August, 1906, had an attack of so-called intermittent fever, duration about four weeks, since which she remained well until August 1, 1909, when present illness began seemingly with an acute at-

taek of indigestion, from which she has never recovered, since which she has suffered with "sour stomach," nausea, cramp-like pains and diarrhea, two to four thin actions per day, appetite retained until the past month, weight at beginning of illness 122 pounds, present weight 82 pounds, a loss of 40 pounds. A short time after beginning of illness stomatitis developed and has continued with varying intensity till the present time. She has been gradually growing weaker since the beginning of her illness. No history of any elevation of temperature at any time, unrefreshed thirst all along, feeling of heat in stomach and bowels, has not menstruated since August, 1909; patient has never eaten much corn bread. These are the most salient facts obtainable.

PRESENT STATE.

The patient is a thin anaemic looking girl, present weight 82 pounds. Height 5 feet 5½ inches; on physical examination nothing abnormal found in chest or abdomen. The patient presents on dorsal surface of both hands an erythematous inflammation extending from the distal end of the first phalangeal joint to about two inches above the wrist, perfectly symmetrical, reaching some higher on the ulnar side than on the radial, line of demarcation sharply defined. The two distal phalanges, also the palmar surfaces of both hands, but at the wrist there is a complete band about two inches in breadth, also just internal to the inner canthi and across the nose is the same erythematous condition. Some slight burning and irritation, marked desquamation, and beginning to fade. This was first manifested about April 10, 1910. She states that there has been no extension since it first developed. No involvement of any other part of the body.

URINARY.

Total output for twenty-four hours 768 cc., sp. gr. 1012, no albumin, no sugar, microscopical examination reveals nothing abnormal.

STOMACH EXAMINATION.

Test breakfast, free HCL 56, total acidity 83, on inflation, no ptosis or dilatation, no mucus in washing.

BLOOD.

Hb. 75, erythrocytes 3,100,000, whites 6,500, differential count small lymphocytes 10%, large lymphocytes 4%, polys. 84%, eosinophiles was .02%, rather a marked condition of poikilocytosis.

FECES.

Mushy, frothy, mass, markedly deficient in coloring matter, on washing no mucus,

little residue, no perceptible amount of fat. On microscopical examination found no amoeba or other parasites or ova.

THE PHYSICIAN AS THE PUBLIC BENEFIT.*

By O. R. KIDD, PADUCAH.

The highest form of service which the medical profession can perform for mankind is in the prevention of diseases, and this field belongs entirely to the medical profession. It is in the study of the prevention of diseases that medicine has no rivals. The charlatan, the Christian Science, the faith cure and the patent medicine movement are all zealous in the treatment of diseases, but scientific medicine alone is searching out the causes of diseases and applying preventive measures.

Medicine as an organized profession is the only great movement having as its aim the reduction of morbidity by improving the conditions for the sick and preventing the well from becoming sick and at the same time destroying its own business. The tendency of the medical profession is towards its own obliteration. As a business it puts aside business principles, as a profession it is the most beneficent force at work (and we might say the only one) at present for the improving of the condition of human life.

It has not only discovered the preventative measures but it has begged and pleaded with the people to adopt them. It has humiliated itself before legislative bodies, it has appealed to governmental authorities, it has labored with the individual for the sake of their own health; it has taught parents how to save their children from sickness and all the while taking bread from the mouths of their own children, and carrying on a propaganda of destruction of the necessity for its own existence. It lives by the presence of diseases which it is striving to make extinct.

Health is too important a thing to be made subject to the rules of trade and commerce, and common sense and the present tendency of scientific knowledge declare that it is better to prevent disease than it is to cure it.

When the average man gets sick he employs a physician to help him recover; the physician is placed in the unfortunate position of depending upon the misfortunes of others for his livelihood and the patient is placed in the unfortunate position of having his misfortune become the physician's advantage.

One physician as a sanitary commissioner at the head of a community, if he has the support of that community, can prevent an epidemic which when once started would demand the activities of a hundred or more

*Read before Paducah Medical Society, Feb. 21, 1910.

physicians; besides the suffering and the lives that are saved by preventing the disease.

The municipal and county boards of health are the ones that are mostly appreciated because they are the nearest the people, and all municipalities are increasing their efficiency and the fields of their work with the support of the counties and they should have the support of the government.

The people of this great country should have a national department of health. Such a branch of the government with the support of Congress and the State Boards of Health would have in its power to wipe out all contagious diseases and many that are acquired could be prevented.

The several States of the Union are each devoting a certain amount of attention to this matter but with different co-operation, with each other, some of the States have applied admirable systems in this work and others have done nothing. One State might reach a high degree of efficiency in dealing with them, but failure to do so on the part of the neighboring States would negative its work.

It is true that by the help of the authorities the percentage of mortality has been decreased, but if we had National assistance as we should have, there would be a much greater decrease.

The Cabinet of the President of the United States is made up of the Secretaries of State, of the Treasury, of War, of the Navy, of the Interior, of Agriculture, of Labor and Commerce and Attorney General and a Postmaster General.

These gentlemen are at the heads of the departments that have to do with the economies of the Government, but only remotely do any of them have to do with the very thing that should concern the people they represent mostly, that is *their health*. The nearest they come to it is in the Public Health and Marine Hospital Service, which is under the control of the Secretary of the Treasury.

The Department of Agriculture according to the Pure Food and Drug Bill, is called upon to pass judgment upon drugs and foods intended for our use, and Congress has provided a Bureau of Public Health and a Hygienic Laboratory and both the Republican and Democratic parties in their National platforms of 1908 declared for further public health legislation, but none of these are adequate.

A sheep with anthrax receives the attention of a Secretary of the Cabinet, but a whole community of people might have the same disease and there is no Secretary to interest himself for them or to try to preserve the well.

Our young children should have at least as much protection as our young industries have, but they do not get the attention from the National Government that our pigs and trees do.

When we elect men to represent us in Congress their time is all taken up with the tariff, the trusts, railroad legislation, or trying to prevent the passage of the County Unit Law. They will of course introduce a bill of some kind so they can go back to their constituents and say "*I done it.*"

One gentleman will introduce a bill to tax dogs; another will introduce one at the next session to repeal it; another will want the rabbits protected; one will want the hotels to be required to furnish their beds with sheets a certain length; a great many of them wanted to make it unlawful to give a dime to a waiter in a hotel that don't get as much per week as they get a day, and a bill was introduced in our last Legislature to prevent bakers from kneading dough with their feet, and if the bakers are guilty of such a thing it should have become a law.

All our penal and charitable institutions instead of being controlled by politicians should be under the control of qualified physicians. Of course, the unfortunates that are placed there for treatment are under the care of physicians, but if the institutions as a whole were under the care of scientific men much good would be done, both in curing the sick and preventing the well that are often made sick by being confined with consumptives and other contagious diseases.

Only a short time ago committees were appointed from our last legislative body to visit the institutions and it is well enough that they look after the financial part, if such is to be considered, but the most important part, which is the treatment, hygiene, exercises and food for the unfortunates, should be under the care of scientific men and not politicians.

The thousands of people that died in the United States last year of tuberculous, typhoid fever, scarlet fever, yellow fever, smallpox, measles and various other contagious diseases is a needless sacrifice, for medicine has developed the knowledge which if applied would have prevented the majority of these deaths, but politics stands in the way. The Representatives of the people are busy with mergers, appropriations and jobs and those dying with preventable diseases are seen only by the medical profession, which is always striving to stamp out the disease.

When a community is visited by an epidemic it arouses itself and local measures are applied which are to an extent successful to

prevent the further spread of the disease, but what is done for a community should be done for the State, for the county and for the world.

The people of this great country will some day have a National Department of Health. It may be deferred, but it is inevitable, and this department as well as looking after the health of the people should frame laws for regulating the practice of medicine, and recommend them for adoption to the different States. The requirements for practice should be the same in every State in the Union. It should not be possible for a person who is debarred from practicing in one State to find that he can step over the line and practice in another; and if he is qualified to practice medicine legitimately in one State he is competent to practice in another and should be allowed to do so.

THE PUERPERIUM OR THE PUERPERAL STATE; DERIVATION AND CLASSIFICATION.

By WALTER B. GOSSETT, LOUISVILLE.

By Hirst: "The puerperal state, or the puerperium, comprises the time from the *termination* of labor until the uterus has regained its natural size. This period, in the normal case, is six weeks; and, in explanation of this belief, the word "puerperium" comes from *puer*, a child, and *pario*, to bear, and denoted in the original Latin, the childbed period, the lying-in period; so it is an appropriate term to designate this one of the periods in obstetrics, pregnancy, labor, the puerperium, and lactation."

By Williams: "The puerperium, or puerperal state, comprises the five or six weeks following labor which are required for the return of the generative tract to its normal condition."

By Edgar: "The puerperium is the period from the *completion* of the third stage of labor to the time when the uterus has returned to its normal dimensions. Its duration is six weeks, or more."

Hirst is the only one who goes into the derivation of the word puerperium, and its classification. I consider his derivation not complete, and his classification of the four periods in Obstetrics incorrect, and think they should be classified as three periods, which I shall try to prove later on.

1. Pregnancy.
2. The puerperal state (*labor and convalescence*).
3. Lactation.

Grandier and Jarman say: "The puerperal state *begins* with the expulsion of the pla-

centa, which event terminates the third stage of labor."

The puerperal state does not begin between any of the three stages of labor, but at the very beginning of labor, which I shall prove.

King's Manual of Obstetrics: "The condition of being in 'child-bed,' whether during or shortly after parturition, is known as the 'puerperal state' (from *puer*, a child, and *parere*, to bring forth").

He is certainly correct in that; but King goes on and says: "The term, however, is generally restricted nowadays to a period of four or five weeks *immediately* following the completion of labor."

The following is taken from the Century Dictionary:

"Puerperal (from Latin *puerpera*, bringing forth, a parturient woman; *puer*, a child; *parere*, bring forth, bear), of or pertaining to childbirth."

"Parturient, bringing forth, or about to bring forth young."

"Parturition (l. parturitis, pp. of parturire, desire to bring forth, to be in labor), the act of bringing forth or being delivered of young."

From the Latin-English Dictionary, abridged from the larger work of White and Riddle, by John T. White, D. D. Oxon., Rector of St. Martin, Ludgate, London:

"Puer-per-us, a. mu. adj. (From puer-per-us; Fr. puer; par-io) Bringing forth children, lying-in, in child-bed: uxor, Sen.; verba, formulae that promote delivery, Ov.

As subst.: 1. *puerpera*, ac. f. (se. mulier), a woman in labor, or in child-bed, a lying-in woman; Hor. 2. A woman who has recently brought forth; Pl. puerperium, ii. u (puerper-a) (a thing pertaining to a puerpera). 1. Prop.: child-birth, child-bed, a lying-in, confinement, delivery; Plant.: Tac. ii. Meton.: A newborn child; an infant; children; Tac.

Puerperal is an English adjectival form of the Latin adjective *puerperalis*, meaning "*Pertaining to, caused by, or following childbirth.*" In medical language it is always *febris puerperalis*, meaning the "puerperal fever"; in non-medical language it is written *febris orta ex puerperio* (fever arising from childbirth), or *febris quo puerperium sequitur* (fever which follows child-birth). *Puerperalis* is derived from *puerpera*, which, along with puerperium, is a compound of the two Latin words, viz.: *puer*, child, and the verb *pario-parere-peperi-partum*, to bring forth (by birth).

Puerperium is a neuter noun of the second declension, meaning "the condition of a woman who is laboring, or (and) who has

been delivered"; and also denotes the six weeks period after delivery.

To what period, or periods, is the term *puerperal* to be applied?

From the beginning of labor pains, and including the first, second, and third stages of labor to six weeks following. Since *pario* means "to give birth to," or "bringing forth," the root of this verb has been compounded with *puer*, and has been applied, (by nearly all authors) to a specified time following the *expulsion* of the child. But why *limit* the application in this manner? By what *right* shall we arbitrarily affirm that the adjectival term, *puerperal* "pertaining to child-birth," is to be limited or restricted in its application to this *particular period*? By considering the Latin word in its true meaning in the genius of its own language, rather than by an interpretation from a standpoint in our language, we shall see a right conception of its proper signification. Let us deal first with the true meaning as conveyed in the Latinity of the word, showing clearly and indisputably its original signification; and, secondly, with the corresponding technical terms derived from these and recorded in medical language, and sanctioned by metonymy, figure of speech, etc.

Take, for instance, *partus*, a familiar form of the verb *pario*. *Partus* has, in a strictly original sense, two distinct meanings, equally important. The first meaning—the one in common use—is "Bringing forth," or "birth," from which is derived, by figure of speech, the technical term "parturition." Second, it means a "begetting," and the word is much used in this very sense in classical Latin; from this meaning are derived, by metonymy, such words as young, offspring, as well as foetus, or embryo. Bearing in mind these two meanings, "begetting" and "birth," we turn to another Latin word, *satus*, to which is usually given the secondary meaning "offspring" or "child," while literally it means "one having been sown (as seed)," from the very *sero*, meaning to sow seed. The connection between the sown seed and the child is obvious. Again the Latin word, *genitus*, meaning, in general terms, "offspring" or "child," really means, in a strict sense, "one begotten," from the verb *gigno*, to beget. In each instance cited the Latin word child has the original meaning, to beget, or to sow seed.

The logical conclusion, based upon the correct meanings of words under consideration is that, when a woman conceives, she is with child. These Latin words—*pario* as well as the others—do not necessarily imply a *fully developed* nine-months child. On the other hand, the rational conclusion is that they re-

fer to, designate, and may be applied to any stage or period of a woman's pregnancy, whether it be one, two, three, or nine months from the time of the "begetting" (conception).

Hence, I believe that the Latin word, in its true meaning, supports the theory that the term "puerperal" is not to be restricted to a particular period of a woman's pregnancy; certainly, no more to the producing or bringing-forth state of the full-term child than to the bringing forth of the one, two, or three-months foetus. I think I have proved from the Latin that the *puerperal* state should include from the *beginning of labor* to about six weeks after the completion of labor—the time of recovery.

Now, in brief, the word *puerperal* comes from *puer*, a child, and *parere*, to bring forth—of or pertaining to child-birth. Then the word means to bring forth a child—of or pertaining to child-birth. When is a woman with child? As soon as she conceives she is certainly with child. To be with child certainly means to be pregnant.

Then the following is my belief: That the *puerperal* state begins as soon as the labor pains begin for the emptying of the pregnant uterus, and lasts until the uterus is emptied and the woman recovers from that pregnancy (conception), whether it be at the first, second, third or ninth month of pregnancy.

CASE OF HYDATIDIFORM MOLE WITH REMARKS.*

BY CHAS. C. GARR, LEXINGTON.

It is with the permission of Dr. J. C. S. Brice, of Flemingsburg, Ky., who treated the case conjointly with me that I report the following case.

Mrs. P. R., age 23, has been married for five years and is the mother of one child four years old. This pregnancy was normal in every way, and there is no history of her ever having a miscarriage.

She has always had irregular menstruation, often missing one or two periods, this I think being due to her anemia and poor nutrition.

She last menstruated in the last week of April, 1908. On the 19th of June, seven weeks after her last menstruation period, we were called and found that for three weeks or since June the first she had been suffering with severe nausea and vomiting, spots upon her eyes, great weakness, and almost constant leakage of blood per vaginam. Temperature 102, pulse 120.

*Read before the Fayette County Medical Society, August, 1909.

Vaginal examination disclosed a very rigid os that would not admit the tip of the index finger. Binannual examination showed the fundus uteri at the umbilicus. This lead us to believe that she was mistaken as to the number of months she was pregnant, as she claimed to be two months, while the size of the uterus showed at least six months. She was kept in bed and the usual treatment of threatened abortion was employed.

I might have stated that she lived twelve miles from our office and in a two-room tenant house. So it is unnecessary to state that the conveniences of even an ordinary country home were wanting.

We saw her from day to day from June 19th until 23d, when the vomiting had become very severe, water not being retained, and the leaking became worse. We then called Dr. C. R. Garr in consultation, he advising us to empty the uterus.

On the next day we tried this under chloroform anaesthesia, but the os was so rigid that our small Goodell dilator could not dilate it more than one-fourth an inch. After working an hour with no result, a piece of gauze was inserted into the uterus and she was put back to bed.

On the next day, June 25th, we found our patient still weaker, temperature 102.5, pulse 140 and excessive vomiting and uterine hemorrhage still present with the os as rigid as ever in spite of our gauze.

Under chloroform anaesthesia we again attempted dilatation with our little Goodell, but it was inadequate, so not having a larger one we used Cook's trivalve dilating rectal speculum, which accomplished our purpose. With a curette we scraped out numerous little cysts, the first that had escaped to our knowledge, and after manually removing a large hydatidiform mole with some difficulty we curetted again finding numerous cysts in the scrapings.

She gradually improved and in a short time had regained her usual health.

She has had no further trouble to this date.

REMARKS.

Hydatidiform mole is a very old, though very rare obstetrical complication. Cases have been reported since the fifteenth century and have been discussed as placental or cystic mole, myxomatous degeneration of the chorionic villi, molar pregnancy, hydatid mole, vesicular mole and hydatidiform degeneration of the placenta. Its frequency varies greatly according to obstetricians.

Edgar has seen it four times in 15,000 cases₁. Peterson has had one case in 10,000 deliveries₂. Ilirst has had three cases in fifteen years experience₃. Williams has seen

three cases in five years₃. Mme. Bowin of Paris saw it twice in 20,375 pregnancies₃. While Chorite of Berlin has had four cases in 2,130 pregnancies₃. Dr. Speidel of Louisville reports having had three cases in six months. The specimens of two of Dr. Speidel's cases I had the pleasure to see and examine.

It occurs more often in multipara and in the later part of sexual life—22 per cent. occurring between the ages of 40 and 60. There is a tendency for it to recur in the same patient.

As to the pathology there is a proliferation of the cells of the syncytium, and Langhan's layer of cells lining the chorionic villi₄. These bore into the uterine wall and cases have been reported when the mole bored through the uterine wall into the peritoneal cavity. This proliferation of cells results in an enlargement of the villus, which becomes filled with traslucent, mucoid, albuminous liquid, having some characteristics of amniotic fluid. These little cysts vary in size from that of a millet seed to a walnut or hen's egg₃.

If the process of degeneration begins in the early months of gestation all of the chorion is involved and the fetus undergoes degeneration too, but if the product of gestation is advanced to four to six months before chorionic degeneration begins, then it is possible that the fetus may live as the placenta is at that time alone involved. Little is known of its cause. Edometritis, syphilis, fibroids and numerous other conditions have been given as causes.

The three most important symptoms are (1) rapid enlargement of uterus; enlargement out of proportion to the period of gestation; (2) Hemorrhage, which at first appears as spotting or staining the napkin and which gradually gets worse; (3) The peculiar consistency of the uterus. The uterus is doughy or boggy, but in the case I have reported this was absent, as the uterus was unusually firm. Other symptoms are nausea and vomiting, which is most likely due to the rapid enlargement of the uterus, spots before the eyes, lumbar pains, great weakness and albuminuria.

Often some of the little cysts escape with the leakage and when these can be found a positive diagnosis can readily be made. Edgar₁ gives the maternal mortality at 13% and this is usually due to hemorrhage or sepsis. A guarded prognosis must be given as to the ultimate outcome for chorioepithelioma malignum may later develop. Dr. E. L. Frankenthal reports a case, which one month after removal of the mole required hysterectomy on account of repeated hemorrhages which came from an elevated mass or poster-

ior wall intimately connected with the uterus.

Drs. Burage and Lang of Boston report a case, which had a severe hemorrhage one week after removal of mole. Two months later she entered hospital after having bled three weeks. Pan hysterectomy was done three and one-half months after delivery of mole. Two and one-half years later patient was in good health.

In fifty per cent. of chorioepithelioma there is history of preceeding mole, and ten per cent. of moles on record were followed by malignant growth according to the statistics of Nattan-Larrier and Brindeau.

There is no way of telling a harmless mole from one ultimately to become malignant, so this fact makes our prognosis very uncertain.

The treatment is evacuation of the uterus as soon as diagnosis is made.

In concluding this paper I would like to lay emphasis on the following:

(2.) A uterus larger than the period of gestation justifies should be looked upon with watchful eye.

(2.) It should be borne in mind after the removal of a mole the possibility of malignancy and the patient should be watched carefully after the operation, so that if chorioepithelioma does develop it may be looked after in its operative stage and not overlooked until its metastasis have placed the patient beyond hope.

1. Edgar—Text Book of Obstetrics, p. 198.
2. Speidel—Kentucky Medical Journal, Nov., 1907, p. 48.
3. Hirst—Text Book on Obstetrics.
4. Ladinski, N. Y. Polyclinic Journal, Oct. 1908, Page 491.
5. Frankenthal—Surgery, Gynecology and Obstetrics, Oct., 1906, p. 571.
6. Burrage and Lang Surgery, Gynecology and Obstetrics, Nov., 1905, p. 410.
7. Nattan-Larrier and A. Brindeau Revue de Gynecologie Paris, March, 1908, abstracted in A. M. A. Journal, Vol. LI., No. 1, Page 82.

An Inguinal Prolapse Operation.—This operation is designed for cases in which there is prolapse of vagina and uterus with a large inguinal hernia. The inguinal opening is enlarged, the contents reduced and the uterus is seized through the opening and fastened to the outer edge of the inguinal ring. The principle is similar to that of Kocher's median exohysteropexy.

Ascending Neuritis.—Belten reports five cases and discusses the history of this affection. The prognosis is favorable with perineuritis without loss of the axis cylinder, also in interstitial neuritis, but the outcome is very dubious in parenchymatous neuritis from penetration of infectious germs through a lesion in the skin into the nerve fibers themselves. In such cases the axis cylinder is always more or less degenerated.—Berliner Klinische Wochenschrift.

THE FORUM.

To the Editor:

In an article written by me in the JOURNAL of May 1-10 I find an error in either the typewriter or typesetter. The JOURNAL says: Another is C. P. nitric acid, made like this, nitric acid and aqua camphorae, one taken every two hours until twelve doses are taken. Should be, nitric acid 5ii, and aq. camphorae qs. 5iii, one 5 to be taken every 2 hours until 12 doses are taken, etc. This is an ectatic remedy and one I frequently use and which rarely ever fails to give satisfactory results. I do not care to have any copies of this article.

C. W. ROGERS.

To the Editor:

Dr. Geo. E. Pettey, of Memphis, has admitted his former assistant, Dr. W. R. Wallace, as a full partner in his Sanitarium and they have built a forty room addition to their sanitarium.

The new building has been constructed according to plans especially adapted to their work, rooms en suite or single, with private bath, hot and cold water, electric bell system, steam heat with every modern convenience for the employment of hydro and electro therapy. Separate buildings for male and female patients.

While their work will be principally confined to the treatment of alcohol and drug addiction they will hereafter also admit patients suffering from mental and nervous diseases. A detached building will be used for the mental cases, where special attention will be given to the treatment of acute insanity. Violently insane patients will be admitted for treatment during the acute stage.

Louisville, Ky., June 7, 1910.

To the Editor:

I noticed in the last copy of the JOURNAL in which you announced me as an addition to the associate editors that you made a mistake in the name of the Association which I represent. You have it "Secretary of the Anti-Tuberculosis Association of Louisville." This will undoubtedly cause some confusion, because it is well known among many of the physicians that Mr. F. A. Sampson is Secretary of the Louisville Association and he has no intention so far as I know of leaving this position. I thought that possibly you could make the correction in the next issue of the JOURNAL.

You will notice by our letter head that the name of our organization is quite different

from that of the Louisville Anti-Tuberculosis Association.

I shall be glad to send you an article for publication just as soon as I can collect some authentic information concerning the work in Kentucky. Hoping that I will have the honor of many more talks with you such as I had in Bowling Green last week, I am,

Yours very truly,

EUGENE KERNER,
Executive Secretary.

To the Editor:

I note in the May JOURNAL that you have Dr. E. L. Gowdy's name both in the index and at the head of his article E. L. Godby. I would suggest that you write him a personal letter asking his pardon and also make a public retraction in the next issue of the JOURNAL, else you may have a troublesome suit for "malpractice" on your hands. The Gowdy name is a mighty name in these parts and not to be lightly dealt with.

Yours truly,

J. L. ATKINSON.

To the Editor:

Your letter of the 14th inst. received, and fitly appreciated.

It is with regret, I assure you, I am compelled to inform you that, under existing circumstances, it is utterly impossible for me to comply with your request. I fully endorse your very worthy endeavor, and, were it otherwise, would gladly assist in enlarging your membership, and feel proud of the honor. But senility has taken possession of the citadel, and holds me "nolens volens"—*sacrificed*. In explanation, permit me to say, in 1852, I graduated at Philadelphia and have now been in harness for over half a century, and Time in his slippers of list and noiseless tread, has taken me for his own. I am now in my eighty-sixth year on life's journey. Have had my trials and tribulations, as others have had, and now, on this long journey I have grown weak, weary and tired. Doctor, I am resting. Tired, enfeebled, weary and way-worn, I am forced to take the much needed rest.

Subject to occasional attacks of "vertigo" and "insomnia" compels me to relinquish henceforth the practice of my profession. Nature, in pity, has shelved me.

(Apropos)

Gray hairs do not a patriarch make;

Nor wrinkled brows a sage;

In subtler ways we deftly take

The finger marks of age.

Ceasing to love! forgetting friends!

When the warm heart turns cold,

Then the recording angel bends

And writes, "He's growing old!"

Farewell! doctor. May the good God make the twilight of your life as soft and tranquil, if not so bright, as its radiant noon. May He make your last days your best days, and the end better than the beginning.

Sincerely and cordially yours,

THOMAS PERKINS, M. D.

To the Editor:

Thinking perhaps the following would be of interest and knowing that many men in Kentucky were taught by Dr. Abraham Jacobi I venture to give a short account of the reception tendered him by the Medical Society of the State of New York.

The movement was started in the house of delegates of the New York State Medical Society, which resulted in a resolution being adopted to celebrate his eightieth birthday. Dr. Chas. Jewett, President of the Society, Dr. Wisner, Dr. Townsend, Dr. Joseph D. Bryant, Dr. J. Riddle Goffe, Dr. Geo. Henry Fox, Dr. Chas. Phelps and many others whose names I have forgotten were appointed on this committee, which of course at once assured success of the movement. The reception was tendered him in the New York Academy of Medicine, in West 43rd street. The building is spacious and well arranged for such a gathering, there being about 2,000 doctors present from all parts of the country to pay their respects to the grand old man in whose honor it was given.

Dr. Jacobi was escorted to the platform by Dr. Joseph D. Bryant, of New York City. Then followed the Presidents of the various societies. Dr. Bryant presided as chairman and as toastmaster in his usual easy manner and made the opening address, to which Dr. Jacobi replied in a short speech. He was visibly affected by the beautiful tribute paid him by Dr. Bryant and finally cut his remarks short by saying: "That he did not have command of the English language sufficiently well to express himself on such an occasion." Dr. Chas. Jewett, President of the State Medical Society, made an address and presented Dr. Jacobi on behalf of the society with a bronze medallion of himself, which was an excellent likeness and was executed by Harriet Fritshmuth, the celebrated artist in bronze work. The medallion was unveiled by Dr. Jacobi's granddaughter, Miss Ruth McAnery.

After the presentation the members and guests passed in single file by the dias and shook hands with Dr. Jacobi, who had a pleasant smile and kind word for each. After the unveiling reception the guests repaired to an adjoining room, where they sat

ified the "inner man" with all the season afforded.

It is indeed an inspiration to younger men to see one in his eightieth year retain his vigor and all his faculties and alive to what is being done by other men. He takes the keenest interest in everything pertaining to his profession and even now at his advanced age it may be said few men can do many things so well and none can do them better than Dr. Jacobi.

A. H. BARKLEY.

COUNTY SOCIETY REPORTS.

Adair.—On Thursday, May 12th, the Adair County Medical Society held its regular meeting, and it was a public meeting. It had been extensively advertised, and we expected to have a full meeting, but in this we were somewhat disappointed. Dr. McChord from Lebanon, the Councillor for this district was here, and quite a goodly number of our citizens, but the attendance was not what it should have been. Our President, Dr. Sallee, and our Vice President, Dr. Blair, were both sick, and not able to come. We had several interesting papers read, and the people heard them gladly.

R. C. McChord read one on "Some Things About Medicine and Doctors That the People Ought to Know." It was given very close attention, and taught the people a good many things that they did not know along these lines.

U. L. Taylor read a paper on "Why Should We Have the Public to Attend Our Society Meetings," and the public was very much interested in this paper.

A. E. Waggener read a paper on "What Benefit Do We Derive from Attending Medical Societies?" Judge H. C. Baker was called on, and he responded with a very fine speech along the lines of these papers.

R. H. Perryman gave us a talk along the same line.

J. H. Grady also gave an interesting talk. Several doctors on the program were present, but not prepared, and had to be excused. We had eight members of the Society present, but some of them perfectly lifeless. Seemed to feel no interest whatever in what was going on. In the afternoon Dr. McChord met with the Society and gave some good advice to the members, and the Secretary called on them to know if they wanted the Society to live or die? He said it seemed to be about as near dead as anything could be and be alive. They said they wanted it to go on, and all promised to do better in the future than they had done in the past. Another meeting was appointed for the second Thursday in July, and we will try it again. I have met with three country doctors since the meeting,

and they paid me their dues. Their names are William Blair, R. H. Perryman and J. T. Hammonds, of Glensfork. I enclose check for the amount. Nearly all the country doctors will pay as soon as I can see them.

U. L. TAYLOR, Secretary.

Barren.—The Barren County Medical Society met at Glasgow May 10, W. T. Britt presiding, a special program having been arranged for this meeting. Seventeen members of our Society were present and the following from adjoining counties: Drs. York and McPherson, Metcalf; Drs. Comstock, Donan and Beck, Hart; Drs. Addington and Grider, Warren. Minutes of last meeting being read and adopted the following cases were reported:

S. J. Smock. Patient, age 31. Four years ago suffered tear of second degree of perineum, which was never repaired. However, the patient suffered nothing as a consequence until six weeks ago, when much pain and straining accompanied micturition, and finally became so severe that it was almost impossible to void the urine. Examination revealed the urethra covered by the anterior vaginal wall protruding through the labia, the meatus urinaris remaining stationary. An effort was made to cocaineize the parts so as to be able to make a full examination. This, however, proved futile.

A. T. Botts considered the condition a cystocele and advised operation.

R. S. Plumlee concurred in the opinion of Dr. Botts, having seen one case previously cured by operation.

J. W. York reported the following case, which elicited much interest and discussion from the Society. Female, age 34. In third confinement, no previous trouble at former labors. Had had three convulsions when he reached her. Hypodermic injections of veratrum were given and Dr. Mudd called in consultation. Delivery was soon accomplished, and soon after the patient had another convulsion. A large dose of calomel and five gts. of croton oil were administered, another convulsion following. Soon after this fifth convulsion, the patient began strangling, whereupon she was turned on her side and one-half to one gallon of bloody saliva ran from the mouth. She then lapsed into coma for 24 hours. Then followed a severe gastro-enteritis for one week, which culminated into severe hemorrhage from the bowel. The bowel was arrested with opiates for two days, during which time she ran a very high fever; on the second day the bowels moved, followed by a severe hemorrhage, the patient dying a few hours afterward.

Was the gastro-enteritis due to an over dose of croton oil?

R. S. Plumlee thought not, but that it was

due to a rare form of puerperal infection which he termed puerperal enteritis.

J. C. Jordan considers nothing of such value in eclampsia as the lance. He also claims that a patient in eclamptic convulsions invariably turns the head to the right and urged upon the Society the necessity of eliminants and careful attention before confinement as the great prophylaxis of puerperal eclampsia.

W. T. Britt in dissenting this case reported the following: Patient large, plethoric woman, fourth confinement, no previous trouble with former pregnancies nor deliveries. Had never seen the woman until called to deliver her. Seven days prior she had been confined to her bed all day with severe headache and blindness, and during her pregnancy had been despondent over the belief that she would never live through this confinement. When first seen by Dr. Britt the pains were very weak and irregular. Os dilated to about the size of half dollar. Very restless and complaining of severe headache. He immediately went to work and delivered her in about two hours. In about twenty minutes the placenta was delivered, and she had a severe convulsion, five following in succession. Veratrum was given. The pulse dropped and no further trouble experienced for about four hours, when the patient suddenly died.

A. T. Botts recently saw a case of uremia in a young lady, with convulsions and coma. Eyes deviated to left and a pulse of 54. He strongly advocates the use of iron, bitartrate of potassium and magnesium sulphate as a routine treatment during the last six weeks of pregnancy. In a vast amount of obstetrical work covering a period of nineteen years he has never had a case of puerperal eclampsia following this treatment.

J. W. York thinks the deviation of the eyes due to pressure on the brain from the engorgement of the blood vessels.

C. G. Depp saw a primipara, aged 14 in a comatose condition when first seen with the head of the child borned. Delivery was completed, a convulsion following in half hour, which was controlled by chloroform. Calomel and salines given; after four hours another convulsion, death ensuing in a few hours. He saw also another case with three light convulsions (so the family said) at intervals of one to two hours, which were controlled by the administration of bromides.

The time being due for the arrival of our distinguished visitors, Drs. P. F. Barbour and G. A. Hendon, of Louisville, the morning session came to a close.

President Britt announced that plates had been reserved for the entire Society and visitors at the New Davis Hotel, where we might have the pleasure of restimulating our gastric

secretions with Barren County's choicest foods.

A committee consisting of Drs. Plumlee and Taylor conducted Dr. Barbour (Dr. Hendon failing to arrive on the noon train) to the hotel, where a few minutes were spent in a general handshake and exchange of hearty jokes, after which we sought the spacious dining room, where the tables groaned beneath their burden, which, however, soon disappeared before the voracious appetites of the hungry doctors.

The afternoon session was composed of a most interesting and instructive clinic conducted by Dr. Barbour.

The following is the diagnosis and treatment suggested in the cases present and by whom presented.

W. T. Britt exhibited Case I, male, white, age 47. Deformed chest, ribs reached below level of crest of ilium. Some gastric disturbance, chronic constipation.

Treatment: Iron and bitter tonics with injections of olive oil and ox gall.

J. C. Jordan, Case II, male, white, age 17. Transversalis muscle torn from its attachments to the ribs by a blow.

Treatment: Bandage, avoid heavy lifting.

J. W. York, Case III, boy, white, age 11. Panophthalmitis, result of injury to the eye five weeks previous.

Treatment: Enucleation.

W. W. McPherson, Case IV., boy, white, age 18. Paralysis of ulnar, median and muscles spiral nerve, from an injury to the arm.

Treatment: Electricity, massage and hypodermic injection into the muscles of large dose of strychnine.

A. E. Ferguson, case V, male, white, age 45. Eczema of face and hand.

Treatment: Appropriate local treatment with thorough elimination and administration of iron.

W. T. Britt, case VI., boy, white, age 6. Tuberculosis of hip.

Treatment: Iron iodide, good hygiene and immobilization.

R. S. Plumlee, case VII., female, white, age 3 years. Hemorrhage of brain at 1 year of age, causing general demented condition without special paralysis.

Treatment: Baby jumper, massage, Faradic current, sea salt bath, hot goose grease, rubbed well into the tissues.

W. W. McPherson, case VIII., male, white, age —, paralysis of right side of face and hand, from sleeping over night in cold draft.

Condition improving, no treatment suggested.

J. M. Taylor, case IX., infant, eczema of face from too rich milk.

Treatment: Plenty of water and not so much milk.

J. M. Taylor, case X., child, white, age 18 months, hydrocephalus.

Treatment: Potassii iodidi.

R. S. Plumlee, case XI., female, white, age 2 years, deafness from otitis, with dumbness.

Treatment: Institute for Deaf and Dumb.

S. J. Smock, case XII., male, white, age 2 years, epispadias, with sunken organ.

Treatment: Development of organ.

J. G. Siddens, case XIII., female (col.), age 5 years, epilepsy.

Treatment: Cathartics, sulphocarbolates, salt, free diet, non-nitrogenous foods, bromides, pushed to produce slight aene and held there for eighteen months.

After the close of the clinic Dr. Barbour gave us a very interesting talk on infant feeding, which was participated in by many of the members present.

G. A. Hendon having arrived we adjourned to Dr. S. T. Bott's office, where in the presence of the Society Dr. Hendon very skillfully enucleated an eye.

The program for the day being completed we adjourned to meet in the large court room of our magnificent Court House at 8:30 P. M. It having been previously announced that Dr. Hendon, the master of oratory as well as surgery, "would deliver to the public one of his brilliant lectures on "How the Doctor Is Made," we found a crowded house awaiting our arrival. Dr. Hendon's lecture delivered in that forceful and humorous way peculiar to himself and which carries with the conviction of the truths he speaks, was well received by an appreciative audience, and won bright laurels for the medical profession in Barren County.

After expressing our personal thanks and gratitude to Drs. Barbour and Hendon for their efforts in our behalf, we departed for our homes, each feeling his store of knowledge materially increased by the day's meeting. While this meeting revealed to the public the sincerity and earnestness of its members in their professional work, and served to more strongly unite the medical profession of Barren County, our enjoyment of the day was clouded by the recent death of our beloved brother, Dr. R. E. Garnett, who died of aente congestion on May 2nd. His death coming as it did like a thunderbolt from a clear sky, cast a deep gloom across the professional canopy, and brought sorrow to the hearts of many.

Probably no man ever lived in Glasgow who had endeared himself to so many people as had Dr. Garnett. His greatest love was for duty, his chief thought the betterment of suffering humanity. Ever holding aloft the banner of his chosen work he gave to the sick time which he needed for rest and consequently his life for others. Kind and gentle in the sick room, wise and discreet in counsel, he was loved and adored by his professional brethren as well as by the large clientage which proved his worth.

The committee appointed to draft resolutions

in regard to his death submitted the following, which was adopted:

"Whereas it has pleased Providence to remove from our midst Dr. R. E. Garnett,

Resolved: That the Barren County Medical Society has lost one of its strongest supporters and ablest members; the medical profession one of its best and most efficient doctors; the community one of its most valued citizens; the wife a devoted and gallant husband; his children a tender and loving father.

Further, That these resolutions be spread on the minutes of this Society, published in the State Medical Journal and local papers and a copy furnished the family of our deceased brother."

R. S. PLUMLEE,

S. J. SMOCK,

A. T. BOTTS,

Committee.

The committee on resolutions extending our thanks and appreciation to Drs. Barbour and Hendon submitted the following, which was also adopted:

"Resolved, That the Barren County Medical Society at its regular meeting May 10, 1910, extends its thanks and appreciation to Drs. P. F. Barbour and G. A. Hendon, of Louisville, Ky., for their kindness in responding to an invitation to be present at the Society meeting of the above date, and

Resolved further, That we appreciate more than words can express the very instructive talks and clinics held in the presence of the Society, and that we thank Dr. Hendon on the part of the public for his interesting and entertaining lecture.

J. C. McCREARY,

C. L. VENABLE,

H. P. HONAKER,

Committee.

Our next meeting is June 14.

T. F. MILLER, Secretary.

Caldwell.—The Caldwell Medical Society convened in the City Hall at Princeton on Tuesday, June 14, 1910, with the following physicians in attendance: J. N. Todd, Frank Walker, J. N. Bailey, N. D. Abell, J. G. Wolfe, W. L. Cash and R. W. Ogilvie. In the absence of the president, the meeting was called to order about 1:15 P. M. by Dr. Todd. Minutes of the last meeting were read and approved, after which the Board of Censors made a favorable report upon the applications of Z. T. and Cynthia Cunningham for membership into our Society. The report was adopted and Drs. Cunningham were unanimously elected to membership in the Society.

W. W. Richmond, Conneilor for the First District, was expected to be present at this meeting, but on account of his failure to catch

the train, he was unable to attend. Various subjects were discussed by the members present, and an outing in the way of a fishing was agreed upon for the next meeting day, and the Secretary was instructed to make the necessary preparations for same and to notify the other members.

R. W. OGILVIE, Secretary.

Carter.—The Carter County Medical Society met here for an open session, those present being G. B. O'Roark, chairman; D. B. Wilcox, secretary; J. W. Stovall, W. A. Horton, J. Q. Stovall, J. W. Strother and F. W. Tyree.

The petition of Dr. George W. Burton, of Rush, Ky., was read and said Burton was unanimously elected a member of the Society and invited to participate. At the appointed hour, 8 P. M., Alpha Hall was thrown open and from 350 to 400 of our best citizens turned out and seemed to greatly enjoy our evening's programme. The Society feels grateful to the following prominent speakers who took part, viz.: Hon. J. M. Wagh, Col. E. B. Wilhoit, Rev. Edward Tadlock and Judge T. D. Theobald. After the exercises closed at the hall the members of the Society and the speakers repaired to the Grayson Hotel, where it was noticeable the instant we entered the dining room that an injury was about to take place, and sure enough the generous proprietor, Judge J. H. Hubbard, and wife had prepared a table that was almost groaning under a load of all that goes to make one feel that life is not a failure and that we could make our mark in the world. Halley's comet was for the time forgot.

Our next meeting is to be held in Olive Hill August 9th.

D. B. WILCOX, Secretary.

Carlisle.—The Carlisle County Medical Society met in regular quarterly session at Kirbyton, in the Baptist church, May 31, 1910, at 10 o'clock A. M. President J. R. Owen in the chair.

Invocation by R. T. Hoeker.

In the absence of Secretary H. T. Crouch F. J. Marshall was elected Secretary pro tem.

After reading minutes of previous meeting, committee on arrangements reported. Church-house place of meeting and Hotel Jacobs for dinner.

The scientific program was then taken up.

First, G. W. Payne being absent, his paper on Diagnosis and Treatment of Gastric Ulcer was read by Dr. Marshall. The paper was very scientific and received the endorsement of all present.

H. A. Gilliam read a paper on Diagnosis and Treatment of Malarial Fever, which was full of interest and covered the ground. The

paper was freely discussed by all. These two papers will be published in the Journal.

Adjourned for dinner.

Reassembled at one o'clock. Dr. Gilliam closing discussion on his paper.

Third, W. E. Gholson regretted that he did not have his paper ready on Ileo-colitis.

Committee on Credentials, Doctors Simpson, Gholson and Hoeker, reported favorably upon the application of Dr. Lloyd Simpson, of Milburn, for membership, whereupon he was duly elected a member of the Society.

Report of cases.

T. J. Marshall reported a case he saw with Dr. Payne, of poisoning in a boy of twelve years, who had eaten a hearty dinner of poke salad including the stalk; the latter in grease after being boiled with the salad. About two hours after the meal he began vomiting and frothing at the mouth, followed by unconsciousness, frequent and almost continuous convulsions for six or seven hours, eyes congested, pupils dilated, rapid irregular pulse, skin cold and clammy, rapid irregular breathing and dysphagia. Dr. Payne had given hypodermic of apomorphine, which seemed to have emptied the stomach. Morphine hypodermically, and chloral hydrate per rectum, finally controlled the convulsions and consciousness returned. The after treatment was calomel purge, light diet and rest.

F. N. Simpson never saw a case of acute poke poisoning, had seen cases of chronic poisoning from the tincture. Thought likely the condition in case reported due to overloaded stomach.

R. C. Burrow also thought symptoms due to overloaded stomach.

J. R. Owen suggested that the symptoms might be due to the poke not being thoroughly cooked.

W. E. Gholson had never seen acute case, but had seen chronic poisoning from poke.

R. C. Burrow reported a case of diabetes mellitis; when seen three months ago had oedema feet and eye-lids, passing two gallons urine every twenty-four hours, containing sugar, specific gravity 1035. All symptoms has disappeared except quantity of urine with a slight trace of sugar. Treatment, apocynum and chionanthus, and a rather varied diet.

S. C. D. Shelbourne gives ergot to diminish quantity of urine in diabetes, and diets patients to decrease sugar.

J. R. Owen has had good results from valerian in diminishing large quantities of urine in diabetes.

F. N. Simpson regards diet most important part of treatment in diabetes mellitis.

F. N. Simpson reported a case of a large umbilical hernia in a female, married, about 35 years old. She had received a fall upon abdomen six weeks before, which produced a separa-

tion of the abdominal muscles in the median line from three inches above to three inches below the umbilicus. The tumor was oval-shaped, very prominent when straining at defecation and coughing, not so prominent when in erect position. She also had tuberculosis involving both lungs. The patient soon after moved to another section and passed from under his care.

W. Z. Jackson reported a case, young lady who had been sick about one year, pale, anemic, menstruation irregular. Saw her first last October. Temperature 100°; pulse 120, congestion posteriorly of lower part of lungs. Her condition remained about the same for three months; he had her to sleep out doors, when she gained four pounds in weight. Then when she would sleep in doors for awhile she would get back to the original condition. Sent her to Texas, where she remained for some time and gained seven pounds in weight. While in Texas, was seized with sudden severe pain in left side, vomited blood two or three times a week. After returning from Texas she had temperature 100°, and still continues about the same. Examination of vomitus shows blood and mucus, no tubercular bacilli, no pus, but large quantities of streptococci. She was given streptococci vaccine. The vomiting ceased and soreness and pain in side disappeared. She still takes the streptococci vaccine. Will report results of treatment to Society later.

S. C. D. Shelbourne reported case, a lady 34 years, old, who had been complaining some time of difficult urination, was constipated, pain in lower part of bowels. Gave morphine and magnesia sulph. for two days, when the pain was less severe, was localized to right side, no rigidity of muscles. A few days later, induration was found low down above arch of symphysis, some fever, mass continued to enlarge up to McBurney's point, when it was about size of a quart cup. There was pouching of Douglas' cul-de-sac. Trocar introduced through the vagina into the cul-de-sac. The mass went down with only a little fluid escaping, opened abdomen and found and removed a dermoid cyst of ovary. Peritonitis followed, the patient surviving for ten days.

A committee composed of Drs. Gilliam, Hocker and Lloyd Simpson was appointed to confer with a like committee of Hickman County Society, in regard to our annual joint meeting.

Drs. Burrow and Shelbourne were appointed a committee on arrangements for the next quarterly meeting in Cunningham, first Tuesday in September.

On motion by Dr. Hocker, resolution of thanks were extended to the religious congregation for the use of their church house, also to Dr. Gholson for his splendid entertainment.

The Society then adjourned.

H. T. CROUCH, Secretary.

Christian.—The Christian County Medical Society was entertained by B. A. Candle and his excellent wife with an old time barbecue dinner, on May 24, 1910, at his country home. And right here I wish to state that for old time Kentucky hospitality and the art of preparing good things to eat, the doctor and his wife have that rare gift that has made Kentuckians famous as entertainers. While the doctor lives ten miles in the country and it rained more or less all day, yet in spite of the distance and the inclement weather we had one of the best meetings, both in interest and number of doctors in attendance, that we have had for some time. The occasion served the purpose of bringing to light the eloquence of two of our doctors. The first thing on the program was the address of welcome by Dr. Candle and the response by Dr. Beazley. The society was really so surprised at the eloquence of these gentlemen that they might almost be said to be startled. We didn't know they had it in 'em. The first paper was read by Dr. W. Williams, of Church Hill, on Infection. The doctor's paper showed that he had evidently bestowed much time and thought upon it. He paid his respects especially to the infections of the tubercle bacillus. The discussion was conducted by Dr. J. F. Stone, of LaFayette, who contrasted very ably the old and the new teachings upon this subject.

The next paper to be read was by Dr. Jackson, of Hopkinsville, on Hook-worm. The doctor showed the modes of infection, the manner in which the disease is becoming so widely disseminated, the treatment, and also took up soil pollution together with the prophylaxis. The discussion was conducted by Dr. Bell, of Hopkinsville, in a masterly manner and all points known about hook-worm were emphasized and brought out. It was as this point that a recess was taken for dinner. After dinner Dr. Barker, of Pembroke, read a paper on "Surgery in the Country." By this he meant to include all surgery done outside a hospital. He deprecates the custom of sending our surgical cases to the city, thereby losing the local doctor both his prestige and fee. He advocated the gradual development of the general practitioner along surgical lines, each doctor to be careful to recognize his limitations. The question was revived, after this paper was read, of erecting a hospital in Hopkinsville and by motion (carried) the old committee appointed last December was instructed to formulate plans and report at the next meeting of our Society. The Society then adjourned and after bidding our host and hostess good-bye we returned to our respective homes. But we cherish still and will for many years to come the hospitality with which Dr. and Mrs. Candle entertained us.

J. H. RICE, Secretary.

Elliott.—The Elliott County Medical Society met at Sandy Hook, Monday, May 16, 1910. There were present J. C. Sparks, H. T. Sparks, J. L. Lyon and Volney Nickell, of West Liberty. The President, H. T. Sparks, resided.

H. T. Sparks read an interesting paper on Lobar Pneumonia, which was discussed by all present.

A resolution was adopted endorsing the establishing of a National Department of Health as set forth in Senator Owen's bill and a petition was directed to be sent to each of our Senators and to our Congressman from this district.

There being no further business for consideration the society adjourned to meet at the office of Dr. W. W. Johnson, Newfoundland, the first Monday in June.

J. L. LYON, Secretary.

Franklin.—Owing to the fact that the next session of the Kentucky Midland Medical Society will meet with the Franklin County Medical Society on the 14th of July as the guest of Louisville physicians, no program for the regular meeting of the Franklin County Medical Society has been arranged for the 4th of July, it being a national holiday, and preparations on an extensive scale to have a safe and sane 4th in Frankfort with patriotic observance and grand fireworks at night, and furthermore that a called meeting of the Franklin County Medical Society was held on the 25th inst. to suitably express sympathy with the family of the late Dr. J. R. Ely, whose death occurred at Tryon, N. C., on the 19th inst.

It was resolved that Dr. U. V. Williams and Dr. J. W. Hill be appointed a committee to frame such. The committee reporting the same it was unanimously adopted.

Resolved we attend his funeral services in a body, and the following doctors were appointed pall-bearers: Honorary—U. V. Williams, E. E. Huran, J. Lampton Price, S. E. James, N. M. Garrett, J. W. Hill.

Burial in Frankfort Cemetery June 21st.

Resolved, That in his death the medical profession has lost one of its most esteemed members, and the sympathy of the profession is hereby tendered the family of deceased.

As a young man Dr. Ely rose rapidly in his profession and in the confidence and esteem of his colleagues. Possessing a strong body, a mind quick in perception, honest and manly, of good judgment and bringing all into play he soon became a prominent factor in his profession and a recognized leader. He was in all respects a safe and sane man, his advice was good, his motives pure, his friendship sincere and lasting.

He lived long enough to see the shadow fall at the eventide upon the tomb of many of his early loves.

His spirit has taken its flight, his troubles

are ended, in the dark twilight, while making a pillow of life's troubles he has justly rested his head in peace and death has kissed his eyelids down to dreamless slumber, and he has joined the loved ones gone beyond the mystery of life and death.

We have left to pay a tribute to his loving remembrance and ourselves in the laurel wreath we place upon his tomb. The white rose shall often blossom and shed its faded petals over the mound that marks the end of his pilgrimage.

"Requiescat in pace."

W. V. WILLIAMS,

J. W. HILL,

Committee.

RESOLUTIONS OF RESPECT AND SYMPATHY OF THE HART COUNTY MEDICAL SOCIETY ON THE DEATH OF MRS. J. J. ADAMS.

Whereas it has pleased an All-wise Providence to remove from our midst the wife of our esteemed friend and brother practitioner, Dr. J. J. Adams, therefore be it

Resolved, That we extend our heart-felt sympathy to the bereaved husband, children, relatives and friends in this their irrecoverable loss of wife, mother and friend.

Resolved also, That while we deeply mourn her loss as a friend, we point with pride to her unblemished character and spotless reputation and that our loss is Heaven's gain.

Resolved further, That a copy of these resolutions be given to the bereaved family, another spread on the minutes of this Society, another sent to the **Journal**, and still another to the county papers for publication.

Signed by the Committee,

S. F. RICHARDSON,

C. M. MOORE,

H. C. BRUNER.

McLean.—The McLean County Medical Society held its regular session at Calhoun June 14, 1910.

Meeting was called to order by President Ayer at 10:30 A. M., the following members present: Drs. Ayer, Spicer, Harrison, Beard, Bandy, Miller, Haynes, Hansford, Gates, Ford and Clark.

After hearing the reading of the minutes of previous meeting the following names were presented for membership: C. R. Robertson, Sacramento; E. F. Mitchell, of Beech Grove; H. A. Moorman, of Sacramento. All were elected by unanimous vote. After a few informal talks pertaining to the business of the society, motion was made to adjourn until 1 P. M.

Afternoon session. Dr. Ayer called the meeting together at 1 P. M.

On motion by Dr. Gates the Society voted

that we have a special meeting on the date of our next regular meeting, and that we request every doctor in the county to be present and bring his family and visiting friends. Also that they be requested to bring their baskets well filled with good things to eat. Motion carried by unanimous vote.

On motion chair was asked to appoint a committee on arrangement. Chair appointed Drs. Gates, Spicer and Hansford.

C. W. Cornell, of Knoxville, Iowa, was with us and made a splendid talk on the advantage to be gained by social meetings, after which the Society made him honorary member by unanimous vote.

On motion chair was asked to appoint a committee on arrangement. Chair appointed Drs. Gates, Spicer and Hansford.

C. W. Cornell, of Knoxville, Iowa, was with us and made a splendid talk on the advantage to be gained by social meetings, after which Society made him an honorary member by unanimous vote.

The Society then entered into a lively discussion of subjects on program, Malarial Fever, (Remittant and Intermittant).

R. L. Ford, of Livermore, was appointed by the President to open the discussion. He was followed by each member of the Society, each one giving his views, regarding cause and treatment of malarial. Every member present expressed himself as having spent a profitable and enjoyable day, and all felt that they were made better doctors by having attended the meeting. On motion Society adjourned to meet at Calhoun on August 9, 1910. Let every doctor in the county make an effort to be present and bring your family and have a good time. Throw off the cares of the world for one day, donate this to yourself and family. You will return home a much better doctor and have a much better opinion of your fellow practitioner. Before the close of 1910 we expect to have every doctor in the County become a member of the Society.

J. H. HARRISON, Secretary.

Owen.—The Owen County Medical Society met in Owenton at 10 A. M., Thursday, June 2, 1910, with the President, W. B. Salin, in the chair and with the following answering present: J. W. Botts, J. H. Chrisman, J. C. B. Foster, W. E. Foster, W. B. Salin, D. E. Lusby, M. S. Veal and George Purdy.

The Board of Censors reported favorable on the application of J. W. Taylor, of Bethany, and he was duly elected to membership. We are pleased to number him with us and hope that his good example may be followed by others.

T. G. Connell, of New Liberty, a member of this Society, had the very painful misfortune to be kicked by his horse, causing a Pott's fracture. His case was reported and each member

present discussed it, expressing his sorrow that such an accident had befallen Dr. Connell. It is gratifying to report at this writing that he is improving very satisfactorily.

W. E. Foster opened his subject, "Aortic Regurgitation," without a paper, as follows: Easy to diagnose. It is a reflex of blood into the left ventricle due to dilatation of the aortic orifice, or distension of the valve. The condition may be caused by syphilis, chronic endocarditis, alcohol, lead poisoning, etc. The result is hypertrophy to compensation. Symptoms: congestion of venous circulation, dizziness, cyanosis, hemorrhage, cough, hemoptosis, short breath, palpitation. Later compensation disturbed. Treatment: very little successful. Treat syphilis, lead poisoning or rheumatism as causative factors.

W. B. Salin opened the discussion by saying it often caused very little trouble till rupture of compensation. Treat trouble that leads to the condition. Avoid excitement, give rest and pure air.

J. W. Botts: A result of other things, sometimes a tubercular degeneration. Establish compensation by overcoming primary cause. Referred to Dr. Boggess' paper on this subject, read at the Eagle Valley Medical Society in May, "Exercise Without Fatigue and Amusements Without Excitement."

J. H. Chrisman gives iodides and digitalis.

J. C. B. Foster and **G. Purdy** expressed appreciation of discussion.

M. S. Veal has not much faith in result of treating the diseases that cause the trouble.

W. E. Foster in closing thinks treatment of causative factors good.

J. C. B. Foster read a paper on "Epidemic Dysentery." Among other things he said it is a disease of the large intestines of specific and non-specific origin, characterized by hyperemia and necrosis of its mucous membrane. Distinguished by discharges of mucus, blood, pus and tissue debris, attended with griping and expulsive pains. One of the oldest known diseases, the name being found in common use before Hypocrates. After which he gives an extensive history of the disease, which proved very interesting. The doctrine that dysentery is a parasitic disease is very old. The large intestine swarms with bacteria and micrococci. Duration, two to four weeks, becoming chronic, may last much longer. Prognosis influenced by age and general condition and complications that may arise. Treatment: improved sanitation, boil water, destruction of stools, absolute rest in recumbent position, laxatives to cleanse bowel, supporting treatment, anodynes (opium preferred), astringents. After this he recommends ipecac as almost a specific, or as near one as exists, and closes.

W. E. Fooster has the opinion that dysentery

is due to a specific microbe, except possibly in tropics. Resembles typhoid. In the treatment he mentions liquid diet, boiling of water, local treatment, permanganate of potassium 1 to 15,000 to 20,000 sol. Anodynes sparingly.

M. S. Veal: There is a bacillary type and an amebic type, in fact this has been proven conclusively. Treatment: local irrigations, cleanse bowel, salts when required, hot stupes. Hot saline, quinine and boric acid irrigations.

G. Purdy calls attention to fact that colon tube is of no avail, refers to Dr. Haines coal oil treatment and the position recommended by him. Also mentions complete irrigation by appendicostomy in severe cases.

After some discussion of the use of coal oil in these cases, J. C. B. Foster closed his paper.

Your reporter noted in the last printed report from him a typographical error in that Dr. D. E. Lusby's name and abstract was omitted. The doctor had given us something worth while and the omission was regretted.

Program for our next meeting, which will be on July 7, 1910, is as follows: "Paralysis Agitans," paper: M. Bell; disc. G. Purdy; "Abuse of Artificial Stimulation," paper: J. A. Estes; disc.: J. H. Chrisman; "Measles," paper: K. S. McBee; disc. A. E. Threlkeld.

Meeting adjourned.

(GEORGE PURDY, Secretary.)

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: W. H. Yelton, John E. Wilson, J. Ed Wilson, N. B. Chipman, H. C. Clark, W. A. McKenney, K. B. Woolery, O. W. Brown, S. M. Hopkins, J. F. Daugherty, T. C. Nichols, Chas. H. Kendall, J. A. Caldwell, P. N. Blackerby, N. H. Ellis, A. L. Beckett, R. H. Lang visiting, seventeen in all. After roll call and reading of the minutes of the previous meeting, we proceeded to the business of the day. Owing to a number of papers not having been read at previous meetings, we dispensed with the regular report of clinical cases and proceeded at once to the reading of papers and their discussion.

Chas. H. Kendall read a paper on Influenza. **J. A. Caldwell** lead in the discussion.

N. H. Ellis read a paper on Chorea.

C. H. Kendall lead in the discussion.

H. C. Clark read a paper on Tetanus.

K. B. Woolery opened the discussion.

S. M. Hopkins read an excellent paper.

John E. Wilson opened the discussion.

W. S. McKenney read a paper on Acute Infantile Paralysis.

J. Ed Wilson led in the discussion.

P. N. Blackerby's paper on Locomotor Ataxia was very interesting.

C. H. Kendall lead in the discussion.

This was one of the best meetings of our so-

ciety in point of attendance and enthusiasm, and was only marred by the death of the sister of one of our most worthy members, Dr. J. F. Daugherty. We have greatly improved in the value of our papers and their discussion, and every one of our members realizes what a value our county medical society has been to us all.

W. A. McKENNEY, Secretary.

Pendleton.—The Pendleton County Society met at the Day House in Falmouth, Ky., Wednesday, June 8, 1910, with the following members present: J. H. Barbour, W. H. Yelton, John E. Wilson, J. Ed Wilson, H. C. Clark, W. A. McKimney, K. B. Woolery, O. W. Brown, T. C. Nichols, Chas. H. Kendall, P. N. Blackerby, N. H. Ellis, V. E. Smith, N. A. Jett, A. L. Beckett, Paul Wakefield, Nanking, China, visiting. The meeting was called to order by President Nichols and after a reading of the minutes of the preceding meeting, we proceeded to the business of the day. After a few reports of clinical cases, we took up the reading of papers and their discussion.

A. L. Beckett read a paper on Diagnostic Value of Abdominal Pain. This was Dr. Beckett's first attempt at reading a paper before the Society, and the way he acquitted himself bespeaks for him a useful career in the profession and a valuable member to the Society. This paper was ably discussed by V. E. Smith, a member of our Society from Bracken County. The Doctor is one of our most wide-awake members, but he resides so far away that he is unable to attend a great many meetings.

The next paper on the program was by J. Ed Wilson, subject, Gastric and Duodenal Ulcers. The doctor read a very lengthy and concise paper, which was very thorough and was discussed by W. A. McKenney, H. C. Clark and other members present. We have been having a good attendance at all our meetings so far this year, and each member feels like he is greatly benefited by the Society, and all feel that we could not do our duty to ourselves nor our patients without the aid of the Society.

W. A. McKENNEY, Secretary.

Scott.—The regular monthly meeting of the Scott County Medical Society was called to order by H. V. Johnson, Vice President, in the absence of W. S. Alphone, President. Those present were Drs. Porter, Crutchfield, Knox, Heath, Barlow, Hartman, Johnson, Foreman and Coons.

The reading of the previous minutes were read and adopted.

L. F. Heath presented a clinical case, man, 22, cigarette fiend, addicted to alcohol, pain around the heart region very acute at times. Sweats easily, shortness of breath, rheumatism

four years previous. Diagnosed mitral insufficiency.

D. B. Knox read an interesting paper on Treatment of Fractured Femur in Aged. Discussed by Porter, Crutchfield, Barlow, Foreman, Coons, Johnson.

L. F. Heath read a very strong paper on Malaria. Discussed by Knox, Hartman, Foreman, Coons, Porter, Crutchfield and Barlow.

J. W. Baird and **Alpire** will read papers at next meeting.

E. C. BARLOW, Secretary.

Spencer.—The Spencer County Medical Society met in Taylorsville on Tuesday evening, May 17th. Meeting called to order at 8 P. M. by the President, J. T. Martin. Owing to rain and possibly the expected arrival of the tail of Halley's comet, the attendance was small, the following members being present: J. T. Martin, R. Y. Shepherd, B. F. Shields, O. L. Conrad and O. M. Crenshaw.

J. L. Martin reported a case of painless childbirth with some unfavorable effects on the baby, from one dose of Abbott's H. M. C. Discussions followed.

O. L. Conrad read a history of a case of Renal Calculi and exhibited a very rare specimen. This was very interesting and liberally discussed.

After transacting some business matters the Society adjourned to meet again on Wednesday evening, June 22.

O. M. CRENSHAW, Secretary.

Taylor. The Taylor County Medical Society met in regular session May 5, 1910. Present: Drs. Sanders, O. M. Kelsay, S. H. Kelsay, Buchanan, Gowdy, Hiestand, Murphy, Reesor, Black, and Atkinson.

This was one of the best meetings we have ever held, as all the members were present except one.

J. B. Buchanan reported a case of fecal impaction that was interesting from the fact that the bowels had not acted for thirty-two days. Glycerine suppositories were used to soften the mass and part was removed with the fingers and this followed by enemata of soap and water relieved the patient.

E. L. Gowdy read a paper on "The Therapy of Morphine and Hyoscin" combined. The paper was a splendid compilation of the recent literature on the subject.

Some time was given to the discussion of the business side of our work.

J. L. ATKINSON, Secretary.

BOOK REVIEWS.

The Sexual Life of Woman, in Its Physiological, Pathological and Hygienic Aspects, by E. Heinrich Kisch, M. D., Professor of the German Medical Faculty of the University of Prague, Physician to Hospital and Spa of Marienbad, member of the Board of Health. The only authorized translation into the English language from the German by M. Eden Paul, M. D., with 97 illustrations in the text. Price \$5.00. Rebman Company, 1123 Broadway, New York, Publishers.

The sexual life of woman is considered in relation to the female genital organs, the feminine organism as a whole, the physical and mental development of the individual. Much attention is given to the questions of education and personal hygiene, both of which are greatly influenced by processes of sexual life. The subject is considered in the different periods, menarche or onset of menstruation, menacine, the culmination of sexual activity, the menopause, the cessation of menstrual activities.

Surgery: Its Principles and Practice. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL. D., Hon. F. R. C. S., Eng. and Edin., Emeritus Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Phila. Vol. V: Octavo of 1274 pages, with 550 illustrations, 45 in colors. Philadelphia and London: W. B. Saunders Company, 1909. Per volume: Cloth, \$7.00 net; Half Morocco, \$8.00 net.

This closes the series of five volumes and contains contributions from many eminent men. The opening chapters are devoted to the surgery of the Vascular System, by Rudolph Matas. The monogram on Surgery of the Female Genitourinary organs has been prepared by E. E. Montgomery, Fisher and Bland.

C. H. Mayo has given a chapter on the Parathyroids and Hare on anaesthetics. There are 66 contributors to this volume who are recognized as authorities on their subjects and this edition like the preceding volumes will prove a valuable addition to the surgeon's library.

Preparatory and After Treatment in Operative Cases, by Herman A. Hanbold, Clinical Professor in Surgery and Demonstrator of Operative Surgery. New York University and Bellevue Hospital Medical College. Price \$6.00. D. Appleton & Company, Publishers, New York and London.

This book is most abundantly illustrated and is invaluable to hospitals and the surgeon, and gives in details how to prepare patients for operation.

rations and the after treatment. The preparation of room, the sterilizing in the home.

Parenthood and Race Culture, an Outline of Eugenics, by Cabel Williams Saleeby, M. D., Fellow of the Obstetrical Society of Edinburgh; member of Council of the Eugenic's Education Society, etc. Moffat, Yard and Company, publishers, 1909.

This volume is intended to supply a general knowledge of eugenics and is a splendid reference book for the teacher and physician who are trying to interest the public in better health and better living.

A Text-Book on the Principles and Practice of Surgery. By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full page plates in colors and monochrome. Cloth, \$5.00 net; leather, \$6.00 net. Lea and Febiger, Philadelphia and New York, 1909.

This volume is especially interesting in that it contains colored plates made by the Lumiere process, which more accurately represents the appearance of fresh specimens than any other form of illustrations.

The experience as a skillful surgeon and teacher has given the author the advantage of condensing the subject and of dwelling upon the really important points on surgery. Over two hundred pages have been added since the first edition.

The Conquest of Disease Through Animal Experimentation, by James Peter Warbasse, M. D., Surgeon to the German Hospital, Brooklyn, New York; Member of the American Association for the Advancements of Science, etc.; author of Medical Sociology. D. Appleton and Company, Publishers, New York, 1910.

This book is intended to give some information upon the realm of animal experimentation and to contradict the general notion that animal experimental means vivisection and that vivisection means painful mutilation of animals.

He shows how surgery has been advanced by animal experimentations, especially brain localizations and the surgery of the blood vessels. The operation of transplanting organs and structure owes its degree of perfection to animal experimentations. From animal experimentation many diseases of the lower animals have been not only prevented but millions of dollars are saved annually to the farmer. It is to be hoped this well written and balanced book will lessen the hysterical outbreak against vivisection.

Spondylotherapy, by Albert Abrams, A. M., M. D., F. R. M. S., Consulting Physician to the Mount Zion and French Hospitals, San Francisco.

co. Cloth, 420 Pages, 100 Illustrations. Price \$3.50. The Philopolis Press, Suite 406 Lincoln Building, San Francisco, California.

A Manual of Diseases of the Nose, Throat and Ear. By E. Baldwin Gleason, M. D., Clinical Professor of Otology at the Medico-Chirurgical College, Philadelphia. 12mo of 556 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Flexible leather, \$2.50 net.

Dr. Gleason's work is a complete presentation of Rhinology, Larynology, and Otology, written in a concise style. Anatomy, Physiology, and Pathology of the Upper Respiratory Tract and the Ear have received careful consideration, making the volume complete in every particular. Inspection, examination, and diagnosis, and the use of the various instruments for these purposes have been described in detail. Methods of treatment have been simplified as much as possible, and only those methods, drugs, and operations are advised which have proved most efficacious. A large collection of formulas is a valuable feature.

The New Psychology, by A. A. Lindsay, M. D., 100 pages, 6x10; in cloth, \$1.25; fine leather embossed \$2.00. The Lindsay Publishing Company, People's Bank Building, Seattle, Washington.

A new book on Suggestive Therapies, which gives the actual principles, the practical formulas and the clinical work of the physician author.

Education in Sexual Physiology and Hygiene, a Physician's Message, by Philip Zenner, M. D., Professor of Neurology in the Medical Department of the University of Cincinnati. 16 mo., pages 128. Price \$1.00 net. Carriage extra. The Robert Clark Publishing Company, Cincinnati, Ohio.

This book contains talks by the author to school children and college boys and also discusses the best modes of instruction in matters of sex.

The author deals with the best modes of imparting sex knowledge to children, and emphasizes the importance of giving these instructions in a way to do good and not harm.

A Text-Book on the Principles and Practice of Surgery. By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates, cloth, \$5.00 net; leather, \$6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

Both as a skillful surgeon and as a teacher in one of the leading colleges, Professor Brewer knows his subject and how to present it. He frankly states that his first edition was uneven

and not sufficiently complete, a fault readily corrected after having the entire book in print before him, instead of simply the manuscript, as at first. The interval spanned by the regular edition was, moreover, noteworthy for the immense amount of productive investigation. To represent the surgery of to-day in its full development, the author has revised every line of his work and incorporated new matter to the extent of two hundred pages, and he has correspondingly enriched the engravings and colored plates.

Importance of Serum Test for Tabes and Paralysis.—Lesser states that the serum test for syphilis is providing a valuable guide to treatment and prevention of tuberculosis and paralysis. Recent life insurance statistics show that a third of all syphilitics die ultimately of tuberculosis, paralysis or aneurism of the aorta. The serum test gave positive findings in all the cases of paralysis and in half of the cases of tabes, in Lesser's experience, and he draws the conclusion that syphilitics who do not respond to the serum test years after their infection are not liable to develop paralysis. About half of the syphilitics who seem to be entirely free from manifestations of the infection years later still respond with positive findings to the test. The conclusion seems evident that these persons, although apparently healthy, are in reality candidates for paralysis later. A positive reaction indicates that the syphilitic virus is still active. Those individuals giving positive findings require specific treatment. In nearly every case in his experience, energetic prolonged specific treatment transformed the positive into a negative response to the test, and this negative phase has persisted to date. The number of injections or injections required varies with each patient, and should be controlled by examination of the blood. He accomplished this result in some cases with potassium iodid alone, and he is confident that in this way it will prove positive to reduce the number of cases of tabes and paralysis. Once developed, antisyphilitic treatment has comparatively little influence on their course, but still he would institute specific treatment in case of a positive reaction in a tabetic to ward off the danger of paralysis.

Protection of Stomach Against Autodigestion.—Katzenstein gives an illustrated description of experiments on dogs, reproducing the natural processes to some extent. A loop of intestine was made to protrude in the stomach or a pedunculated flap from the spleen. The foreign body in the stomach in each case was rapidly digested. On the other hand, it was found that a pedunculated flap of stomach tissue could be drawn around into the stomach and sutured to protrude inside without being digested. It is

evident that living tissue is digested by the natural gastric juice in the individual's own stomach, unless it is tissue that produces the gastric juice or is normally laved by it, such as the tissue of the stomach and duodenum. This property of resisting autodigestion was noted both with living and dead stomach tissue. He believes that this resisting property is due to the presence of an antiferment, an antipepsin, and that a morbid lack of this antiferment explains the production of gastric ulcer and its lack of tendency to heal. He treats ulcer of the stomach on this basis, supplying the missing antiferment in the form of an antipepsin, and reports excellent results.

Influence of Pneumothorax on the Tuberculous Lung.—Gratez gives the clinical history and autopsy findings in three cases of pulmonary tuberculosis in which pneumothorax had been artificially induced. In every instance the pathologic findings showed unmistakable healing processes in the compressed lung. The local lesion had been arrested and was progressing to complete cure when death occurred. Healing was manifested in the encapsulation of the cheesy foci and organization of pneumonic processes by connective tissue. The hindrance to the circulation of the lymph prevents absorption of the tuberculosis toxins. The therapeutic results of compression depend on the completeness of the pneumothorax induced and the force of the compression. Nodular processes seem better adapted to this method of treatment than the pneumonic type. He adds that the perforation of cheesy foci and extensive pleurisy are dangerous complications liable with this method of treatment. In the first case reported the adhesions prevented a successful pneumothorax and the patient succumbed to the progress of the tuberculosis. In the second case, both lungs were involved and the tuberculous lesion in one lung continued to progress after the process in the other lung had been arrested by compression. It was necessarily imperfect owing to adhesions. In none of these cases was there any evidence of penetration of foreign bodies into the lymph tracts, allowing transportation of particles from the affected zone to other regions, but it can not be denied that this possibility is imminent with this therapeutic pneumothorax.

Traumatic Paralysis from Compression.—Bardenheuer's patient was a roofer, who fell from a roof, crushing the inferior cervical plexus between the clavicle and the seventh cervical vertebra. Bardenheuer's experience in this case, sustained by a survey of the literature, has convinced him that such cases of complete paralysis from a subcutaneous injury require operative intervention if by the second or third week no improvement is observed under medical measures, and if after the tenth or twelfth day the electric

irritability for both currents—after a phase of exaggeration—declines to complete extinction, while the muscle loses within a week the power to respond to the faradic current and in the second week becomes more susceptible to the galvanic current with the reaction of degeneration and signs of atrophy. He advocates exposing the nerve in this case and doing a paraneurotomy or suturing the nerve, according to the indications presented.

Physiology of the Respiratory Organs.—Liebremeister reports research on the mechanism of respiration in case of sudden stenosis of the larynx. His studies were made mostly in post-diphtheritic paralysis and in normal conditions. The findings show that interference with breathing causes inflation of the lung if the obstacle to respiration shuts off the air from both lungs. This inflation may develop in the course of a few minutes, and if it continues for a week it does not retrogress after removal of the obstacle, but is liable to entail permanent emphysema. Examination of the lower outline of the lung is thus able to afford instructive information, as it indicates the severity of the obstruction and its persistence in spite of the measures undertaken to relieve it. His experience teaches that delay before relieving the stenosis—by intubation at least—is liable to entail permanent emphysema, which can be avoided sometimes by prompt intervention. In conclusion, he gives the details of the twelve cases studied.

Air Embolism with Placenta Praevia.—Esch remarks that in the eight cases of air embolism with placenta praevia on record, including a case personally observed, which he describes in detail, the air embolism occurred during or immediately after version. He could find no other case in the literature with any other method of treatment of placenta praevia. The version was done with the patient in the dorsal decubitus; in five cases the placenta was partially and in his case totally detached. In prophylaxis the aim should be to open the lumen of the vessels as little as possible. The danger is less when an instrument is used to bore through the membranes, instead of the finger. The breathing during version should be quiet and regular to avoid fluctuations in the abdominal pressure. If the pelvis is raised a little, the air is less liable to be aspirated into the uterine. It is wise also to refrain from drawing the legs up toward the abdomen, as this relaxes the wall and the intestines may slide down against the diaphragm, which is liable to induce negative intraabdominal pressure. It is remarkable, he adds, that air embolism has never been observed with the use of the hysterocervuter, which has the further advantage that it does not require general anesthesia.

Treatment of Convulsions.—Westphal commends chloral for arresting an epileptic seizure. It can be administered internally in doses of 2 or 3 gm. (30 or 45 grains), or twice this amount can be given in an enema, preferably in combination with morphin. If the seizure recurs on awakening from the following sleep, the drug should be given again. In hysteria he urges that it must be borne in mind that it is always the psychic suggestive influence of the physician which has a curative action, regardless of the measures employed. The most important factor in treatment of convulsions is differentiation of their cause.

Peripheral Action of Active Exercise in Circulatory Disturbances.—Hasebrook relates experiences and tests which sustain his assumption that the benefits of active gymnastics in cases of fatty heart and allied conditions are due in part to the training of the muscles of the skeleton and vessels, but mainly to the sweeping away of obstacles accumulated at the periphery. The retrogression of the peripheral resistance is due possibly in some measure to reduction in the viscosity of the blood. When therapeutic gymnastic measures produce rapid and striking benefit, especially in fatty heart and allied conditions, it is extremely probable that the disturbances relieved were essentially extracardial.

Congenital Syphilis and Progressive Paralysis.—Muller relates three cases of progressive paralysis developing in persons whose history showed the probability of inherited syphilis. The patients were between 42 and 53 years old. The interval of 42 years in the first case between the infection in the uterus and the outbreak of the paralysis is the longest interval yet recorded. In another case the patient developed symptoms of mild tabes at 18, which gradually improved, but after thirty-five years progressive paralysis became evident, to which he succumbed in a year.

Protection of the Perineum.—Samuel has the puerpera flex the thighs, her hands on her breast to exclude straining, while she breathes rapidly and deep. This relieves the perineum from strain to some extent, and the accoucheur's right hand presses on the head from behind the perineum, while the fingers of the other hand can be worked under the chin. The head is worked along by the right hand. The patient lies on her back, and it is impossible for her to strain unless mistaken kindness gives her support for her hands. The article is illustrated.

WANTED.—Four young ladies to take a course of training in an up-to-date Hospital. N. Y. Z., care of Journal, Bowling Green, Ky.

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ORIGINAL ARTICLES.

TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR.

By J. B. RICHARDSON, JR., LOUISVILLE.

I present this subject for your discussion tonight not with any idea of giving a method of treatment which will produce perfect results in every case we meet, but of describing one which will give vastly better functional results than any of the older methods. The method which I shall dwell upon, is the one advised by Whitman several years ago and the one upon which from time to time, he has written so convincingly. In his earlier work, I had the pleasure of seeing some of his cases and assisting him in the treatment of quite a number.

The methods of traction with or without attempts at fixation, the use of fracture boxes and sand-bags, all appeal to me as being inadequate. The use of plaster of Paris for fixation of the leg in the line of the body, is good in so far as it produces fixation. A rule, familiar to you all, applicable to all fractures, applies here as well. No matter where the location, fractures should be reduced, the fractured ends being brought as near as possible into apposition and fixation should be complete. In the use of plaster with the leg in the line of the body, we are successful in maintaining complete fixation, but we do not bring the fractured ends into contact, as I shall later try to show.

The use of other methods accomplish neither fixation nor reduction. No matter how complete our efforts, when using these methods, fixation is out of the question. These patients will not remain at rest. They must be placed on bed-pans. The beds have

to be cleaned and sheets changed. Each of these manipulations produce some movement at the site of fracture. Pain is the result; the patients become worn out in time, later, they all become exceedingly nervous and then we are compelled to discontinue all treatment in our efforts to deal with the resulting condition.

We are taught to treat the fracture until such time as the general condition becomes such as to demand its discontinuance. This accounts for the poor results that are gotten by these older methods. According to all text books on this subject, all that is hoped for is a united neck even though united in deformity and with shortening.

Reference to statistics, shows good results to be very few. By good results we mean the minimum amount of shortening and normal abduction after bony union is complete. When viewed in the light of older teaching, the good results may be reported as quite high. Our view should not be gotten from these older authorities, however, but as noted above, a functionally active hip should be the result we strive for. These hips heal in Coxa Vera and Whitman has shown that this deformity increases when weight bearing continues.

Whitman has shown that fracture of the neck occurs frequently in adolescence and childhood. He divides fracture in children into two classes. (1). Fracture of the neck itself and (2) separation of the epiphysis. The diagnosis is gotten from the history of those cases seen at the time of the injury. Few are seen by the surgeon, sprains, etc., being the common diagnosis. Fractures of the neck are apt to be incomplete and pain and inability to get about are the symptoms most complained of. In separation of the epiphysis, pain is greater and each motion

is painful as the joint proper is involved. These cases are often diagnosed hip disease and treated for this condition. In both, abduction is limited and the great trochanter is above Nelaton's line with the presence of

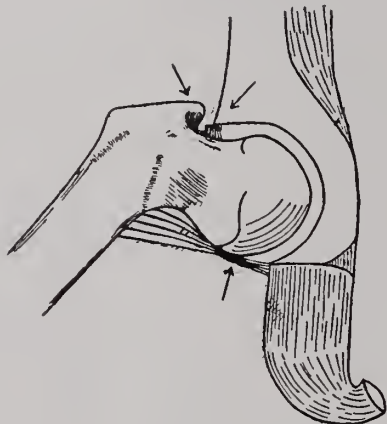


FIG. 1.—Normal hip in abduction.

shortening. In complete fracture of the neck in children, the symptoms are the same as in adults. X-ray has done much to enlighten us relative to these injuries, but we

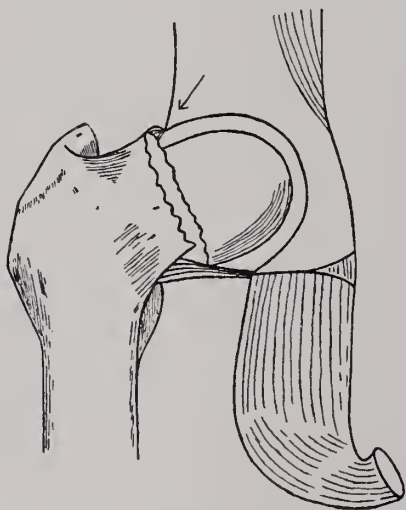


FIG. 2.—Position occupied by fragments when leg is fixed in line of body.

should exercise great care in reading them as they may lead to error.

The illustrations we have here, are copied from Whitman and we can explain the position of the fractured extremities better from them than from any amount of writing.

In our older methods you see that apposition is incomplete even though we have complete fixation as is illustrated in Figure

No. 2. The result is, when we get bony union, we have a resulting Coxa Vera which is progressive as weight bearing continues.

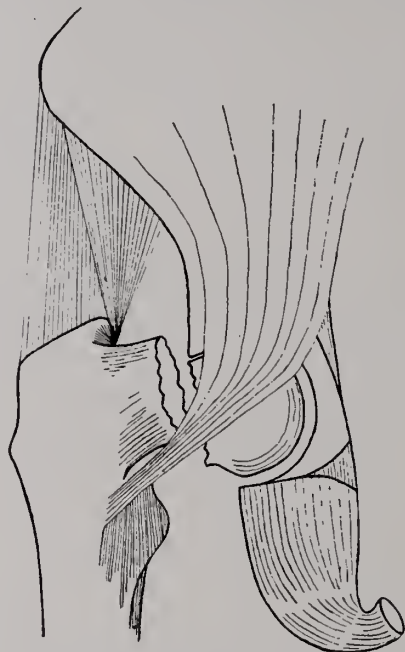


FIG. 3.—Position of fragments usually seen in fracture of the neck.

When seen late, this class of cases have to be subjected to a sub-trochanteric osteotomy with removal of a V shaped piece of bone and the leg treated as any other fracture. This you see, increases the angle, the shaft and



FIG. 4.—Position of fragments when leg is fixed in abduction.

neck bear the one with the other, and the normal is restored.

In illustration No. 3, we have the bones occupying the position seen in most of the fractures we are called on to treat. Whitman discovered that by his method, he was able to bring the fractured extremities into apposition as shown in Figure No. 4. We have seen several of these cases opened and direct inspection showed the fracture as illustrated and under abduction, the apposition was present as shown in Figure No. 4. When this relation does not exist, the extremities are brought into contact by the lower part of the capsule, which is not torn. Abduction pulls on this and in turn causes the inner fragment to assume a direction upward and outward.

Slight reference has been made to the symptoms and diagnosis of this fracture.

Again in passing, let us remind you that fracture occurs very often in adolescence and childhood, that the diagnosis here is often overlooked and later these cases are treated for "growing pains," rheumatism, etc. Here are cases which have healed in Coxa Vera and the symptoms result upon this deformity or, as mentioned above, upon progression of the deformity as weight is borne.

Once the diagnosis is made, the treatment should be instituted as soon as possible. An anaesthetic is needed. We prefer ether. In adults old age is not considered a contraindication to its use. Place your patient's shoulders on pillows of sufficient height to raise them as high as the sacrum, which is supported on a hip-rest. A well fitting spica cannot be applied with a pan or block used for this purpose. The hips should be on the same plane. This can be arranged by having the anterior spines level. The sound limb is abducted to its normal degree. Now with traction on the injured limb, made by an assistant, the leg is abducted and rotated slightly inward. The abduction is made to compare with the normal as shown by an uninjured leg. When abduction is complete, the great trochanter is resting just above the acetabulum and the neck rests upon its rim.

Figure No. 4 shows the position occupied by a fractured bone when the leg is placed in Whitman's position. A flannel bandage should now be applied from the toes to the chest. Better, when it can be gotten, is stockinet, but the bandage answers the purpose nicely. It will be noted that the use of cotton is not mentioned. We feel that we have had enough experience with its use to condemn it. Cotton becomes wadded up and absorbs and retains all moisture and for this reason is a cause and not a preventor of pressure sores. In very thin subjects, a very

small amount of cotton batting may be used over the anterior spines. Plaster of Paris is applied over the flannel. Have the posterior part of the spica low over the buttocks as often this may hang over a poorly fitting plaster and give trouble. Judgment may be used as to how high to carry the pelvic and abdominal portion of the spica. In light patients the thigh can be held by one which does not extend high. In heavy persons, it should be carried well up over the abdomen to the nipples or just below them. In this case a hole may be cut over the abdomen to allow for distention of the abdominal contents. This spica is allowed to remain two months, when it is removed. A second may be applied with the limb brought down in the line of the body. This second spica need only be extended to the knee and should be well fitted about the condyles. Allow this to remain about four to six weeks when active and passive motion is instituted. Weight should not be borne for about four and one-half months.

Our personal experience with this method has been limited to four cases. One child, age fourteen, and three adults. In the case of the child, the result at the end of a year was perfect. At this time the patient was lost sight of. One of the adult cases was an excellent result. Some limp was present due to half inch shortening. This was caused by lack of enough traction at time fracture was first seen. The second adult case was only a fair result. It was seen late after the injury and we think now, it did not receive the treatment it should have. It was placed in abduction, an effort being made to break up the fracture. At present, an osteotomy would have been done. The fourth case is now in the first spica.

The greatest advantage primarily in the management of these cases by Whitman's method, appears to be the greatly lessened amount of pain. In all the cases seen, pain has been of very slight degree, lasting only for a day or two.

These patients can be moved about very readily, from bed to couch as occasion may arise. No fear of displacement need be entertained.

Lastly as shown by the illustration, the apposition is as perfect as possible and a functionally active hip results.

DISCUSSION.

August Schachner: Some have said that thinking is a lost art; sometimes I am inclined to believe that it is an undiscovered rather than a lost art, when I think of the way one text-book is copied from another. However, Dr. Whitman, of New York, seems to have done some thinking

and it is refreshing to see a medical man work out the problems that Dr. Whitman has; for instance he has said that if we had an injury to the hip joint in an old person, we necessarily conclude that it is a fracture. All that may be true and it may not be. It is possible, as Dr. Whitman has pointed out, to have fractures of the hip in adolescence and in young and middle adult life. His treatment is based on absolutely correct principles. He cannot control the small fragment, so endeavors to control the large fragment. By bringing the leg in abduction, he brings the long axis of the thigh right in line with the small fragment. By doing this, he not only brings these two fragments in proper line, but he relaxes the abductor muscles.

It is surprising that this idea has not been more generally accepted. Dr. Whitman has been working along this line for a number of years, and really it is the logical, anatomical and intelligent way to treat fractures of the hip.

F. T. Fort: In the treatment of fractures, I think they are best considered as individual cases, and from a common-sense view-point. It is rarely that you get two fractures exactly alike, even of the same joint. I have used many dressings for fractures of the hip, but I have found none of them so good as the common sand-bag. I put bandages above and below, and a sand-bag on the inner side. I always abduct the leg and give it slight rotation inward, and use a weight of 15 or 20 pounds for the first week or two, and gradually reduce this weight as the patient convalesces.

I have never used spica. I have, in my earlier career, used plaster of Paris, but I do not like it as well as the sand-bag. In any injury of the joint I think the surgeon is justified, where there is the least suspicion of fracture, in giving the case the benefit of the doubt and treating it as if it were a fracture, until the time comes for a second dressing, when a positive diagnosis can be made. If it is a sprain, no harm has been done, and if it is a fracture, the right line of treatment has been followed. I should think a knowledge of the anatomy of the hip joint would cause one to slightly abduct the leg to reduce the shortening and produce the best results. I have had several fractures of the hip joint and I have gotten them through with a moderate amount of shortening and very good results.

A. D. Willmoth: We are all interested in the treatment of this particular class of fractures. The treatment he has outlined, which had its origin and conception in Dr. Whitman, has been used by many surgeons for a number of years, and better results have been obtained with it than by holding the foot in line with the body by means of a Buck's extension, or other treatment. Unfortunately, however, it has a great many disadvantages. In the class of cases that

Dr. Schachner mentioned, the old people who have fracture of the hip, if you put your patient to bed, within from seven to ten days hypostatic congestion develops and that is the end of your case.

While Dr. Whitman's treatment certainly offers many advantages over the older methods of treatment, possibly one that has not been mentioned offers still better results; that is, the so-called Lane treatment, which consists of suspension of the patient in a frame. This, to my mind, possesses great advantages over the other. The only difficulty I can see is in getting the frame. Of course, you can go to any plumber and have a frame made, but it takes time and trouble. This treatment has been carried out particularly by Allen, of Indianapolis, who has had such good results that I understood the surgeons of that city are now turning over to him for treatment all the old intractable cases in the hospitals.

It has several advantages. First, you do not have to place any plaster on the patient. Second, you put your patient where you can take care of him with the least amount of trouble. The patient is standing up and you can put the leg in any position and maintain that position. In the case of an old man or an old woman with a broken hip, instead of putting the patient to bed, they can be stood up on the frame and can take food and drink in that position, and the patient does not develop hypostatic pneumonia and does not die. Some months ago, in an exhaustive paper on the subject by Allen, of Indianapolis, he said he did not get any shortening by this method. He said that he was perfectly willing to take anybody's case and promise them that there would be no shortening, and that is more than you promise from any other treatment. The three points that appeal to me most are: first, the patient is in a position in which hypostatic congestion is least likely to develop; second, the patient is in a position where you do not have to disturb him for anything; third, it is said that there is no shortening, and the patient is comfortable during the entire treatment. Therefore, it is superior to the Whitman treatment which we have been using for the past few years.

Albro L. Parsons: I would like for the essayist to tell us in closing what line of treatment he would pursue in a fracture of the hip that is impacted, in an old person.

A. R. Bizot: I have had no experience with Dr. Whitman's method of treating these fractures. I merely wish to report a case illustrating how we sometimes unexpectedly get a very good result.

Some six years ago I saw a woman, 86 years of age, with a fracture of the neck of the femur. I first gave her an anesthetic and made sure that my diagnosis was correct, and then

used the old-fashioned Buck's extension with very good results. About a year later the same woman fell and fractured the other hip, and I had her sent to the infirmary and proceeded to put on a Buck's extension. On the next day I was confronted with symptoms of the condition Dr. Willmoth spoke of, hypostatic pneumonia, and the patient was also in a state of profound shock. It was thought that she was going to die and, at the solicitation of the nurse I took off all dressings and sat the old lady up in bed with a sand-bag on either side, and kept her there six weeks, giving her opiates to relieve the pain when it was very severe. The old lady is now up and walks by pushing a chair around in front of her, and I am satisfied that she owes her existence to the removal of the dressings. This case is an evidence of the fact that we have to use some individuality in treating these fractures.

G. A. Hendon: This question involves principles other than those of technique, and there is one for which I think we owe an everlasting debt of gratitude to Dr. Senn; that is, for establishing the principle that age is no barrier to bony union. For many years the impression existed among the profession that, after a certain age, it was impossible to obtain bony union, especially in fractures of the hip. The solution of the whole problem lies in uniting the fragments and retaining them in position. This has been achieved by Whitman in the most ideal manner. The application of plaster of Paris spica in these cases, according to my experience, involves no injury. There is no injury or surgical condition that I confront with as much confidence as I do a fracture of the hip, I care not what the age of the patient may be. The last but one that I treated was a woman 84 years of age, who is now able to walk without any assistance. I have treated a group of something like a dozen cases in this manner, and in no instance have I had occasion to regret it. I have never had a patient die of shock, or hypostatic pneumonia, or any of the conditions that have been mentioned and emphasized here tonight.

There is one other method of treatment, which may supplant the plaster of Paris in extremely decrepit patients; that is, the method devised by Dr. George Brown. It is a modification of Hodgen's splint, and recently Dr. Simpson and myself employed this method in the treatment of a fracture in an old woman, who was injured, I think, ten or twelve days before we saw her, and who was hemiplegic on the side opposite to that on which the injury was sustained. I would be glad if Dr. Simpson would mention this case, as he has a more intimate knowledge of the details than I have.

One case in my group was a woman of advanced years, who has suffered from osteo-

malacia and had been rolled in a wheel-chair for eighteen or twenty years. On one occasion she rolled too near the threshold of the door and fell out, sustaining a fractured limb, which was put up in plaster of Paris, in the Whitman position, and perfect osseous union occurred.

Virgil E. Simpson: The woman Dr. Hendon referred to was injured thirteen days prior to the time I saw her. Definite diagnosis of fracture had not been made by the attending physician when it was decided to bring her to the city and place her under our care. In bringing her here it was necessary to haul her twenty miles in a spring-wagon, over a rough road, at night. When she reached here an examination revealed the presence of a bed sore of considerable size, and altogether the patient was in bad condition. A wire frame was applied, which was suspended from the ceiling and, so far as osseous union is concerned, the result was very satisfactory. The bed-sores healed very promptly after putting her on a rubber ring.

J. B. Richardson (closing): In regard to Dr. Fort's statement that he has obtained very good results from the use of sand-bags in conjunction with abduction, I will say that Dr. Whitman asserts that any method which will maintain abduction is just as good as plaster of Paris. He does not claim that plaster of Paris is the only thing that will do this, but he does claim that, in his hands, plaster of Paris has given the best results, and I certainly agree with him. It is beyond me to understand how fixation can be maintained with sand-bags, although in abduction, with the muscles relaxed on the outer part of the thigh, it is easier to do than if the leg is fixed in line with the body.

Dr. Willmoth's statement that the disadvantage of spica in old people is that they die of hypostatic pneumonia, is certainly not borne out by the experience of those who have used spica. It seems to me that the ability to move the patient around, no matter whether the limb is placed in line with the body or in abduction, is a point in favor of the use of spica.

Judgment should be used in applying the spica, putting it higher up on some and lower on others. If you see the patient is not going to do well with the spica high on the chest, cut it off and put on a lower one, and you can put your patient in an almost upright position if you so desire.

In regard to the matter of applying the spica, I suppose this is all more or less a matter of habit. I have gotten into the habit of applying it with a patient in a recumbent position, and I don't believe I could do it in the upright position.

In regard to Dr. Parson's question about impacted fractures, I believe they are very rare.

I believe in most cases of so-called impacted fracture, there has been some effort at union and we call it impacted. If I had a true impacted fracture, I would certainly break it up and put the leg in apposition.

UREMIA.

By WM. SANDERS, LOUISVILLE.

Uremia is a symptom not a disease. It has been defined as "a form of auto intoxication which generally occurs in acute or chronic nephritis or in conditions attended with anuria." It is also met with in other diseases of the kidneys, such as cancer, tuberculosis, suppuration, etc., in pregnancy and in parturition.

There are several theories entertained in regard to the etiology of uremia. The one most commonly accepted is that the condition is due to the retention in the blood of excrementitious substances normally excreted by the kidneys. This seems most likely because the symptoms of uremia will disappear when normal kidney elimination is re-established. The introduction of urea into the blood stream has failed to produce uremic symptoms and the ligation of the renal veins has been equally futile of results; possibly the condition may be due to the production from the retained material, of some new toxic matter not normally present.

A theory advanced by Brown-Sequard supposes the intoxication to be caused by an undemonstrated internal secretion of the kidney.

Traube and others claim that a localized edema of the brain will produce the symptoms.

Delafield says "that a contraction of the arteries (a condition existing in the acute form) may cause all the manifestations of this condition. Acute uremia is often developed in nephritis while the specific gravity is still good, and the quantity of urine is not diminished, until after the contraction of the arteries is established. There can be no reason, therefore, to believe," he says, "that the contraction of the arteries is due to the contamination of the blood by excrementitious substances, and we must frankly admit that the reason of the contraction is yet unknown. We know," he adds, "that when by the use of drugs we can dilate the arteries, the symptoms dependent upon their contraction will disappear."

There are two forms of uremia, the acute and the chronic. In the acute form the onset may be sudden and severe, or gradual with the same symptoms but of less intensity. The more prominent symptoms are headache, vomiting, dyspnea, convulsions, delirium or

coma, and scanty secretion of albuminous urine or complete anuria. The headache is often occipital, extending down the neck. It is sometimes attended with dizziness. Vomiting is the initial symptom in many cases, and may be accompanied by a profuse diarrhoea without pain of any kind. Sometimes there is a persistent stasis of the bowel. Dyspnea is more pronounced at night. Fever is rarely present; however, it may be present before death. The pulse is usually full and strong at first, later becoming weak and thready. The convulsions are epileptoid in character and generally supervene while the patient is in a comatose condition. They are unattended by any outcry. They may be preceded by muscular twitchings and come suddenly without warning, the patient being supposedly asleep. Convulsions are more likely to occur in those cases in which there is a high tension pulse, and disappear when for any reason the tension is lowered. Hemiplegia or monoplegia may develop before or during the convulsions and blindness or deafness often remains for a short period in cases that recover. Coma is nearly always a symptom. The urine is diminished in quantity and there may be complete suppression. In one instance I found the bladder absolutely empty before any other symptoms manifested themselves. The skin and conjunctiva may take on the peculiar muddy appearance of septicemia. Death usually occurs in coma, but may occur in convulsions if they are violent and interfere with respiration.

Chronic uremia is found in those cases where the renal insufficiency is of slow and gradual development and the nervous system becomes, as it were, partially habituated to or tolerant of the poisons. The symptoms are periodical headaches, anorexia or nausea, vomiting or diarrhoea, asthma, Cheyne-Stokes respiration, sudden blindness or deafness, formications and numbness. At times in the breath of patients and in the exhalations of their bodies a urinous odor is detected. The quantity of nitrogenous matter excreted by the kidneys during twenty-four hours is decreased, and usually the total amount of urine is diminished. This condition is not always due to the kidneys alone, but simultaneous derangement of the liver and wholesale fermentation of the contents of the alimentary canal help cause it.

The diagnosis of uremia, if seen early should not be difficult. To guard against error the urine should be examined in every case of persistent headache, nausea, vomiting, diarrhoea, and even when supposed neuralgia pains are complained of; but when

a case is seen for the first time during coma, it may require close observation to distinguish it from the unconsciousness due to diabetes, alcohol, cerebral hemorrhage, or opium.

Diabetic coma may be recognized by the history, the sweetish odor of the breath, the glycosuria, and the subnormal temperature. In alcoholism the patient can generally be aroused by shouting in the ear, there is the odor on the breath, and the absence of other causes.

Cerebral hemorrhage can be recognized by the history, the age, the condition of the arteries, and by the evidence of paralysis, such as stertorous breathing, unnatural relaxation or rigidity on one side of the body, irregular pupils, conjugate deviation of the eyes, and a higher temperature in one axilla. One of my cases simulated apoplexy so closely that only an examination of the urine cleared up the diagnosis.

In opium poisoning the pupils are small, the respiration slow, the temperature normal or subnormal; possibly the odor of laudanum may be on the breath. The diagnosis will be aided by the exclusion of other causes.

The prognosis of uremia is always grave. In the acute forms there is often some hope. Even after the most severe symptoms recovery is possible, provided the condition is due to an acute nephritis; but if there is a chronic renal disease present, the case is hopeless and the manifestations may be regarded as a messenger of death.

Puerperal cases may be looked upon as more favorable, as the combination of circumstances upon which they owe their origin is of short duration.

The first indication in the treatment of uremia is to restore the secretory function of the kidneys, and to remove the poisons from the blood by catharsis, diuresis, and diaphoresis. We may empty the bowel by jalap, elaterium, calomel or salines. Free catharsis is absolutely necessary. The patient should be immediately placed in a hot pack in order to produce free sweating and to promote diuresis. In one case in which there had been less than one-half ounce of urine secreted in 36 hours, and in which there was persistent vomiting, the hot pack stopped the vomiting in a few hours and during the succeeding 12 hours three ounces of urine were passed and during the next 12 hours twenty-three ounces. As soon as the vomiting ceased this patient was given infusion of digitalis in one-half ounce doses. Recovery was uninterrupted. Pilocarpine will produce diaphoresis, but should be used with caution. Hot normal salt solution should be given subcutaneously or by the bowel. If the ar-

terial tension is high it may be reduced by glonoin; if the pulse is feeble digitalis should be employed. The withdrawal of all food for a time while the bowel is being thoroughly cleared is said to assist recovery.

For the convulsions chloroform may be used. I believe with less harm than morphine. Delafield claims that opium does no harm while the arteries are contracted. I would not recommend it although I employed it in heroic doses in one case. The man was a morphine habitue and was seen first in convulsions about one o'clock in the morning. His pulse was full and strong. His breath had a urinous odor. Prognosis very bad. I gave him $1\frac{1}{2}$ grains of morphine and 1-50 of nitro-glycerine every two hours by hypodermic. It required three such doses to stop the convulsions. By morning he was able to swallow and I then gave him twenty grains of calomel and the results were all that could be desired. He made a good recovery on acetate of potash and infusion of digitalis.

Ether has been recommended as valuable in the uremic asthma. It acts as a stimulant to the nervous system and as a diuretic. It is administered in drachm dose by the mouth and if the patient be in coma one-half drachm doses subcutaneously every one-half to one hour. This method is only effective in kidneys that are partially fulfilling their functions.

DISCUSSION.

Carl Weidner: This subject is one in which every one is interested. Unfortunately, as the essayist has said, we do not know the cause of uremia to-day. With all the older and newer views on the subject, we are still in doubt as to the pathology. The old idea of urea has been exploded; also the ammonia view and the carbonate view. The later view of the subject probably plays an important part here. As the doctor mentioned, internal secretions probably takes place from the kidneys which disturbs other metabolism. This looks to be a very plausible theory indeed, and it is supported somewhat by experiments which have been made along this line, where the ureter has been ligated and uremia did not occur with the same frequency as when the kidney itself was taken away. All of these views, however, are still of experimentation.

In reading the notes of the International Congress, I notice that one German authority mentions a view along this same line, namely, that certain poisons are found in this condition, but he does not state whether in the kidney itself or this side of the kidney. These poisons are found, not only in the blood, but in the liver, in the brain and in the muscle, and they are very likely the result of some disturbance

of general metabolism. Dr. Sanders properly stated that in uremia, particularly the chronic form, we have a condition that is the result of a multiple cause. Not only the kidneys, but the liver and intestines do not do their work; the entire system is at fault, and we have a combination of uremia and hepatoxemia. That seems to be the case in, at least, many of these patients that we see shortly before death.

There is one interesting feature in this connection that I know I have seen often. I have seen patients who passed a limited amount of urine and still had uremia. Close watching of these patients, however, will show that the urea has been considerably diminished. Not only do we find albumin in the urine, but the urea is diminished. There are other cases where the urine is almost entirely absent, and in those cases the amount of urea is relatively large but totally diminished.

There is a case reported of bichloride poisoning where the patient had total suppression for an entire week, and still no uremic symptoms developed. It is such cases as these that make it doubtful whether uremia is caused by the kidney alone.

F. C. Askenstedt: I fully agree with Dr. Weidner and the essayist that suppression cannot be regarded as a cause of uremia. We have all seen cases where there was complete suppression, or a very scanty flow of urine, without uremic symptoms. I recall one case in particular, in a nervous woman, who passed only about four ounces of urine a day for some time, and was not as much alarmed about it as I was. She made a very nice recovery. I remember a statement by Alonzo Taylor that there are recorded a dozen cases of nervous diseases that had passed absolutely no urine for a week's time and all recovered without trouble. On the other hand, in a large number of kidney conditions we find excretion fairly good and yet uremia comes on. A case of interstitial nephritis, under my observation, who regularly excreted from 450 to 500 grains of urea in 24 hours, and other solids in proportion, showed marked symptoms of uremic poisoning.

One point the doctor did not mention is the heart symptoms that result from high tension, which is so very common in these cases. I think we very frequently overlook these cases, and if we would make it a rule to examine the urine of all patients who present high tension, and especially, hypertrophy of the heart without organic trouble, we would find a large proportion to be suffering from some form of uremia. High tension is very common, though occasionally it is absent. It is a remarkable fact, however, that, although the patient may continue to suffer from uremia, the high tension does not always continue. In one case I remember the tension was 210. The man was suffering with

uremia—vomiting, constant severe headaches, hypertrophy of the heart, etc., and a faint trace of albumin was found in the urine. The tension went down to 130, the patient improving somewhat. He left the hospital and seemed to be fairly well, yet the tension rose to 175. I think this was probably a case of interstitial nephritis, although the albumin cleared up in a short time and there were very few casts present. He is still going about. It is peculiar, I think, in a case of this kind, that the tension should fluctuate so much.

The essayist mentioned differentiation between uremia and apoplexy. We sometimes find cases of interstitial nephritis with symptoms of apoplexy. This is a complication due to the high tension and many of these patients pass out that way.

Hugh N. Leavell: I had the pleasure of seeing a couple of these cases with Dr. Sanders and a question arose as to the method of treatment to pursue, and I would say that, in one case, the opposite method of treatment was pursued to that which we pursued in the other case. We based our treatment entirely upon the condition of the tension. In one case we administered nitro-glycerine, or nitrites, and in the other digitalis, with the same ultimate result in both cases. In one case, the tension being diminished, the patient quickly gave evidence of increased secretion of urine, while in the other case the tension being increased brought about a like result.

I think perhaps we pay too little attention to the arterial condition in nephritis in estimating the value of treatment of uremic symptoms, as well as for uremic coma or uremic convulsions. I do not believe we can lay down any hard and fast rule as to how we shall proceed in uremic convulsions, based upon the quantity of urine that is being excreted. The most disastrous case that ever came under my observation was one in which the excretion of urine was perfectly enormous, and the patient dying of uremic convulsions. I would say that the urine contained an excessively large amount of albumin and a great number of casts, as well as a very low percentage of urea. Elimination from the intestinal tract had apparently been good. This patient was a pregnant woman, and I would say that the urine was examined frequently before delivery, without revealing any evidence of a kidney lesion, either microscopically or chemically. No symptoms were manifested until after delivery of the child, it being clearly a case of post-partum eclampsia, which I thought was a rather unusual condition, the patient being perfectly well up to the time of delivery. She died within two days after the birth of the child.

The question of the duration of the toxicity of the urine is one we have to take into account in determining whether we have an acute

or chronic condition to deal with. If a chronic condition, we are more likely to have manifestations of high arterial tension; whereas, in an acute condition, we will probably have low tension. In the one case, use nitrites; in the other, administer digitalis. If we will watch our arterial tension, we can very often avert catastrophes of this kind. There must be a great degree of similarity between uremia with high tension and apoplexy.

Michael Casper: One point might be elaborated on a little, and that is the finding of albumin in the urine as a pathognomonic symptom. Of course, albumin may be present in the urine from numerous causes. I had a case some time ago in which albumin and casts were found in the urine, and the patient was in convulsions the first time I ever saw him. On the strength of these symptoms I at once diagnosed uremia and he was taken to the infirmary. I learned afterwards, however, that he did not have uremia, but his condition was due to a gumma on the brain. Dr. Sherrill had treated him before for this same condition, and he thought the tumor was located in the cerebellum. However, the patient went along and got well. That was three or four years ago. He still has albumin and casts in his urine, but has never had any symptoms of uremia or other symptoms indicating that his kidneys are bothering him.

H. N. Leavell spoke of eclampsia. I believe it is claimed now that ten per cent. of cases of eclampsia do not show casts and albumin in the urine. I read an article not long ago in which the author claimed that we cannot tell in advance when eclampsia will occur by examining the urine, because, in about ten per cent. of cases, albumin and casts are not present in the urine. I think Dr. Leavell's case must be in that class.

There is also some controversy at the present time as to whether eclampsia is always due to uremia, or whether it is synonymous with uremic poisoning, and from the cases I have seen in which a great amount of urine is excreted. I should think they come under a different class of cases than typical uremia.

J. M. Morris: I am always glad to hear a paper of this kind. The subject of uremia is one of intense interest to us all, not only to the general practitioner but to the surgeon or specialist, because we are all liable to meet with it at any time, and we all ought to know something about what to do in a case of this kind.

We seem to be as much in the dark about the etiology of this condition as were our forefathers; we know absolutely nothing positive about it.

As to the treatment, I feel that the essayist has covered the ground very fully and satisfactorily. One thing I should like to mention, however, is lavage of the stomach and bowels,

flushing out the stomach with normal saline, thorough flushing of the intestinal tract, and the introduction of saline into the blood itself, or, at least, subcutaneously, so that it may be taken out by the blood current. I think this, in addition to the other methods of treatment mentioned by the essayist, would be well to remember.

I should like to mention one case to show how easily we may be slipped up upon by this condition. I was once called upon by a man and his wife for the purpose of being engaged to deliver her, which was expected to occur in the next two or three days according to their calculations. During the night of the day on which I had been engaged, I was called to see the woman and found her in convulsions. One convulsion followed fast upon the other and I called in an assistant, and we delivered the woman, as quickly as possible, of a seven and a half months child. However, the convulsions continued, all that we were able to do being of no avail, and she died within twelve hours from the time of the first convulsion. The history of the case was that the woman had been in absolutely perfect health up to that time. When I saw her first she was apparently healthy, and gave no history of any symptoms indicating any renal condition or any other abnormal condition. On the day previous to the onset of the trouble she had dined with a relative and eaten a very hearty dinner, probably much larger than she had been in the habit of eating, and, to my mind, the overloading of the stomach may have had something to do with developing the trouble. To our regret, there was no improvement in the woman's condition after delivery of the child and, while she regained consciousness at intervals, there was never a time until her death when she was entirely free from convulsions. The baby is still living and now, at the end of a year, weighs sixteen pounds.

Carl Weidner: I would like to ask if any one has practiced bleeding in these cases?

E. S. Allen: I would like to ask how does saline transfusion give good results in uremia, when a good many men believe that a salt-free diet is almost essential in nephritis? Somebody must be wrong.

We know nothing about the etiology of this condition; it is merely supposition. I believe, as others do, that the function of the kidneys is dependent upon urea; that the power of the epithelial cells to extract poisons from the blood depends upon the chemical presence of urea, and that the presence of urea depends upon whether or not the liver is doing its proper function. We know that the liver has a great many functions to perform, and that one of these functions is to take care of toxins, whether of bacterial nature or arising from degenerated proto-plasms or incomplete conversions of

proteid, etc. This multiple function of the kidney makes it an important organ, and when we have an unusual amount of toxic material carried to the liver, and retrograde changes taking place as a result of degeneration of the cells, and when we have bacterial toxins absorbed and carried to the liver, I believe that the organ is so busy trying to perform its physiological functions that it has not sufficient physiological energy to manufacture urea. Again, probably the products are not brought to the liver in such shape as to be readily converted into urea, as we realize that urea is the end product of metabolic nitrogenous matter and that it is one of the hepatic functions to act on such products of retrograde changes of proteid material and that the end chain of this is urea, and unless the liver is doing its function properly it cannot convert these materials into urea. Probably the tissues do not give up these toxic materials in a stage in which the liver can act upon them, and, unless urea is present in sufficient quantities to afford stimulation to the epithelial cells of the kidneys, they are powerless to extract toxic material from the blood, even though the kidney itself may be healthy primarily. We can have a healthy kidney and, unless it is stimulated by urea, it will not functionate. Where we have a crippled kidney, where degenerative changes have taken place in the cells lining the uriniferous tubules, and where the cells become so low in vitality as to exfoliate from the uriniferous tubules, showing that we have a crippled kidney already, these cells, being in such a low state of vitality, cannot respond to urea stimulation. Therefore, with a low percentage of urea and with epithelial cells of lowered vitality, we are liable at any time to have suppression of the urine; or, rather, suppression of elimination or excretion of toxic products.

John W. Price, Jr.: In answer to Dr. Weidner's question, as to whether any one has had any experience with bleeding in these cases, I will say that, during my experience at the Philadelphia Episcopal Hospital, the resident staff were ordered to treat uremia as follows:

If a case was brought in, in a state of convulsion but not in profound coma, we were first to put the patient through a sweating and purging process, and do whatever we could to increase the secretion of urine and, if the case did not respond very shortly under that treatment, we were to bleed. They were bled according to their blood pressure. Usually we took not less than a pint and the blood pressure would then go down to 120 or 130, and with that we would be satisfied.

When patients were brought in in a state of coma, it was our practice to immediately give them two or three drops of croton oil and pack with hot packs. If they did not respond to this treatment within a half hour or so, they were

bled, and in these cases we took from one and one-half to two pints of blood. Often the results were astonishing. I am sorry that I can not give off-hand the percentage of cases that recovered, but that was the procedure followed.

In one case, I learned that six months before the patient came under my care, he had been brought to the hospital in a state of coma, and had been bled and returned to work in three weeks. He remained in pretty fair health for awhile, but continued to drink and lead a riotous life, and six months later, he was brought in and came under my care. We bled him again, at one time taking two pints of blood, and he regained consciousness almost before the bleeding was finished. He remained in good shape for two or three days and then became unconscious again, with a blood pressure of 130. We bled him again and he again recovered consciousness and lived a few days, dying in a third attack.

Hugh N. Leavell: I have had only one case in which bleeding was practiced. That was a case of suppression following scarlet fever. The patient developed uremic coma and finally uremic convulsions and, after exhausting all the routine measures for relieving these conditions, I finally decided to bleed. We withdrew nearly a quart of blood without any result whatever, either in bringing back consciousness or increasing the quantity of urine excreted. The suppression had existed for twenty-four to thirty hours, and perhaps the toxicity of the scarlet fever was so great that there was no chance.

B. F. Zimmerman: I frequently practiced venesection in these cases during my service at the City Hospital; sometimes the results were very good and sometimes disappointing. I have never practiced it in private practice, however. I have suggested it once or twice, but the objections to it were so strong that I have never felt justified in attempting it.

This is a very interesting subject, and the various different theories advanced, and the diversity of opinion on the subject, only serve to emphasize the fact that we have a great deal to learn about the etiology of uremia.

The most interesting feature is the difference between those resulting from nephritic disease and those resulting from obstructed ureters. Dr. Schachner reported a case to this society in which the patient had complete uremia for seven or eight days following obstruction of the ureters from carcinoma of the cervix. A short time ago I had a case of carcinoma of the uterus, where practically no urine was passed for a week or more, yet the only symptom of uremia this patient exhibited was a slight somnolence. As a rule, these patients do not lapse into coma, remaining conscious almost to the last.

E. S. Allen: Did you ascertain by post-mortem examination how much urine the ureters would hold?

B. F. Zimmerman: I did not, because post-mortem examination was not permitted. In another case I had at the City Hospital, while the interne was not permitted to complete the post-mortem, he found considerable dilatation of the ureters, each one capable of holding probably two ounces of urine. In both of these cases there was almost complete suppression. In the last case I mentioned, the patient remained in a semi-conscious state, with the temperature never registering above 94 F. in the rectum, for six or seven days. That is something I have never seen before or since. It would seem to indicate that there is probably more marked disturbance of the general metabolism in uremia from nephritis than from mechanical obstruction of any kind.

As to the use of saline in these cases, we have good authorities for and against it. I confess that I do not like to use the saline very much, and would never use it where there is oedema. However, I may change my mind. I do not regard this question as entirely settled at the present time.

Wm. Sanders (closing): The point that has been most interesting to me in this discussion is the number of cases that have been mentioned where there was absolute suppression of the the urine and the patient lived a week or more. I have had three cases of absolute suppression and they all died within twenty-four hours; one following acute nephritis, one following diphtheria, and one following pregnancy.

I thank the gentlemen very much for their discussion.

CLINICAL CASES

SPASTIC PARAPLEGIA.

By J. T. DUNN.

I present this patient with the hope of bringing out in the discussion something of the symptoms and pathology in these cases as seen by the nerve specialist, and will appreciate free discussion dealing with the surgical possibilities in correcting the very bad locomotion in such cases.

From the very nature of the pathology which is closely akin to chronic myelitis, little hope can be offered by medical treatment; it therefore falls to the lot of the surgeon to do something. Tonics, electricity, massage and hydrotherapy are of material service in the upbuilding of the patient, and doubtless are valuable factors in arresting or limiting the onward march of the spastic paralysis.

Primary lateral sclerosis with spastic contractions of muscles in the limbs, especially

flexor groups, is gradual in onset, occurring between ages of 25 to 35. The gait is characteristic and very peculiar. The posterior group of muscles on the lower limbs being shorter than normal, cause the patient to assume a more or less squatting attitude, carrying the weight of the body upon the tip toes, as in talipes equine.

In this attitude, it is impossible to walk without the aid of a crutch or cane or to come to a halt without some support. Walking consists of short, jerky spasmodic dragging steps. Normal muscular elasticity and consequent joint action is impossible. Clonus is usually present, and deep reflexes are increased.

The very fact that recoveries from this condition are impossible make it obligatory upon the surgeon to restore as nearly as possible the muscles to their normal length and leave the case in the hands of the neurologist to develop all possible nerve and muscular action that these cases may be enabled to get about with some degree of comfort.

The history of the case before you is that when he was five years old he had typhoid fever, which had a normal course. He is now 16 years of age. The spastic condition dates back to that typhoid convalescence. There is no history of an injury or paralysis or any disease prior to that attack. The deformity had grown worse until about two years ago, since which time there seems to have been no change, either for better or worse.

You will observe he is well nourished and muscular system above hips is free from involvement and mental condition is good. This young man is now taking a business course with a view of being self-supporting. He is the son of a physician and will appreciate your advice relative to operative interference with a view of bettering his locomotion.

DISCUSSION.

Wm. A. Jenkins: I hardly feel like saying anything after such a cursory examination. However, we may to a certain extent pass judgment even upon this hasty examination and more upon the carefully prepared report Dr. Dunn has given us.

So far as I am able to judge from this examination, the trouble seems to have skipped the sensory apparatus; probably the brunt of the attack is borne by the lateral columns of the cord, columns which have to do purely with the motor tracts. I am inclined to believe that, if an exceedingly careful and close examination was made of this case, and then detailed examinations at intervals, it would show some ascending character of involvement, because there seems to be a little heightening of the elbow reflexes.

I did not have time to try the jaw, nor the facial muscles, to see his ability to control these parts. Evidently, it is one of those cases of inferior paraplegia, of spastic type, due to sclerotic thickening, whatever may have been its cause, in the lateral columns of the cord.

Insofar as the future management of the case is concerned, there are reports extant both for and against tenotomy, but I believe the preponderance of evidence is in favor of tenotomy. It seems to give these patients, for a long time at least, more useful limbs, and they are able to get about to a much greater extent. Some gentleman, whose name I do not recall, reported a series of such cases in which he obtained a great deal of good from tenotomy. It seems to me that it would promise more general usefulness in the future than any kind of medical treatment. Of course, medical treatment could only be along general lines, to make the body perform its work as well as possible and, in this way, attempt to hold on to the coat-tails of the process, so to speak, and overcome its ascending nature. In Dr. Dunn's place, I should not recommend tenotomy procedures.

C. H. Harris: I would like to ask your opinion as to the danger of bed sores from putting this patient to bed. I had two or three cases who developed bed sores after being put to bed. However, they were in more extreme condition than this patient. Would that be an argument against tenotomy?

Wm. A. Jenkins: As the sensory apparatus is in good shape, and as there have never been any vaso-motor or trophic symptoms, I do not think that would be any argument against tenotomy.

C. H. Harris: Do you regard the cyanosis, or lividity, here as an indication of trophic disturbance?

Wm. A. Jenkins: I regard it as being due to the lack of use that this degree of spasticity brings about rather than depending upon the process itself.

J. B. Richardson, Jr.: I did not hear the doctor's report, but as regards treatment of this case, I should think it is a more or less hopeless condition. I have seen quite a number of cases treated by tenotomy and I have never seen any good results from it. I have seen several cases develop bed sores. The plaster covering is apt to produce pressure sores. My advice to the doctor would be to let this patient strictly alone; if he attempts to operate, he will do more harm than good.

Chas. Farmer: I would like to ask Dr. Dunn if he has seen anything in recent medical literature in regard to treating these cases by laminectomy, dividing the posterior nerve roots and thus relieving the spasticity. In a recent number of the New York Medical Journal, or the Journal

of the A. M. A., two New York surgeons report several cases in which they have done this operation. Whether it will result in any good or not, I do not know.

B. F. Zimmerman: Spastic paraplegia is a very common condition, but lateral sclerosis, such as this boy has, is a very rare condition. In this case, according to the history and the examination which Dr. Dunn says has been made, we have nothing but motor symptoms. The tendency is for the disease to progress, but it may become arrested at any time. The medical treatment amount to practically nothing, except as has been given, electric treatment, massage and things of that kind, to supple up the muscles somewhat.

I can hardly agree with Dr. Richardson as to the formation of bed sores in a case of this kind. I think the cases he has seen must have been those of other forms of paraplegia, where, in addition to involvement of the lateral columns of the cord, there was also involvement of the trophic nerves; in other words, they were probably cases of myelitis, or some cerebral form of disease involving the trophic centers, and not primary lateral sclerosis, as this appears to be. This is a very rare condition. In my clinical work I have had opportunities of seeing a great many cases of paraplegia, but this is the second case of what appears to be lateral sclerosis that I have ever seen. In diagnosing this we must eliminate absolutely everything but the spastic disturbance, no involvement of the sensory apparatus, no sphincter involvement, etc.

W. C. Dugan: I have had considerable experience in these cases. One I remember in particular, who was confined to his bed by other troubles, and had no bed sores. I am quite sure that Dr. Zimmerman is correct about it, that Dr. Richardson's patients must have had some condition other than lateral sclerosis, because I cannot understand why pure lateral sclerosis should result in the condition Dr. Richardson mentioned.

In regard to operation in this case, I would not promise very much, but, in view of the fact that there is nothing to be gained by medical treatment, I believe I would try it, putting on a brace, after letting one foot down, and bringing up the arch of the foot so as to support him as much as possible.

Dangers of "Wood Vinegar."—Bliedtrey has encountered three fatal cases of poisoning from pyroligneous acid taken inadvertently, and has found 132 fatal cases on record. In some, the "wood vinegar" had been taken with suicidal intent.

SARCOMA OF THE INFERIOR MAXILLARY BONE.

(EXHIBITION OF CASE).

BY H. H. GRANT, LOUISVILLE.

I present this specimen to-night, not so much on account of the importance of the specimen itself, as because of the fact that it represents a condition which is of very great importance because of the difficulty of differential diagnosis.

This specimen represents a sarcomatous condition, beginning in the central portion of the inferior maxillary bone. No microscopic examination has been made, but the history of the case, I think, warrants the diagnosis, and it is of that point that I wish particularly to speak. Tumors of the face involving the bone are either benign or sarcomatous, and there is no possible way of differentiating between the various forms of benign tumors with anything like certainty. However, it is not really necessary to do so, because, if the tumor is benign, it does not need any attention unless it gets in the way or for cosmetic reasons, whereas, if the tumor is malignant, it is of the utmost importance to recognize it early and get rid of it, before it has gone so far that surgery cannot be satisfactorily employed. If the tumor is benign and has caused ankylosis, or makes an ugly tumor, all the surgeon has to do is to get rid of that part of it that is in the way; but, if malignant, operative interference will simply facilitate its growth and do more harm than good unless the entire growth is taken away. Benign tumors in this region are usually fibromas, chondromas, and occasionally osteomas. In this particular case, an interesting feature was that this man had, upon the same side of the face that this was removed, a deformity produced by a tumor apparently beginning in the antrum of Highmore, which had spread through the cavity and pushed out the malar bone, and even elevated the nasal bones of that side of the nose causing a very prominent deformity. This tumor is probably a chondroma springing from the antrum of Highmore.

Fully twenty years ago I saw this man with the same condition. At that time it gave him no pain and, while exceedingly ugly, it did not appear possible to remove the growth without taking away half of the superior maxillary bone; therefore, I advised that nothing be done for it.

About two months ago he came to me with complete ankylosis of the lower jaw, upon the same side with pain, tenderness and some little redness and I thought possibly it was inflammatory, but I could distinctly make out

an enlargement and suggested operation with a view to determining whether or not it was not malignant. The absence of a tooth on that side which should have been there, led me to think that possibly it was a dentigerous cyst, and I could get no clear history of the tooth having been removed. The fact that the tumor was of only two months duration and had increased considerably in size, was distinctly painful, and necrosed bone had begun to discharge, together with the fact that the man was 42 years of age, led me to believe that it would be safer to take the bone away rather than to split it open and curette it out. If the growth had existed for one and a half or two years, I would simply have chiseled the bone away with the expectation of finding a dentigerous cyst, or an old chondroma. When incision was made, the tumor was found to contain some pus, necrosis and extensive breaking down indicating inflammatory degeneration of a true malignant growth.

Although necrosis and breaking down of bone does occur in some benign bone growths, still from the history of rapid growth, the great amount of pain the man suffered, and the fact that the trouble had resulted in an inflammatory condition which had completely ankylosed his jaws, I am quite sure that it was the better plan to have taken out this bone.

DISCUSSION.

B. J. O'Connor: The case Dr. Grant has presented is extremely interesting, but I do not think he has given us a sufficiently detailed report. Necrosis of the bone may occur as the result of a good many factors and does not necessarily indicate a malignant condition. Personally, I have no opinion to offer as to the character of growths on either the inferior or superior maxillary bones; I have nothing on which to base an opinion except the clinical evidence presented. I believe that every tumor of a doubtful nature should be subjected to a microscopical examination to determine its character. Even with a microscopical examination it is not easy to make a correct diagnosis. To classify a tumor as malignant simply because necrotic portions of bone are present, is to my mind a rather snapshot way of making diagnosis. Some sarcomata exist for years and years without showing any evidence of breaking down, for example, such growths as fibro-sarcomata, or chondro-sarcomata.

I remember in one instance a condition which resembled a ganglia on one of the tendons of the back of the hand; the clinical aspects were entirely those of ordinary ganglia, except the persistence of the little mass. Finally, an attempt was made to remove a portion of the mass which had undergone some little necrosis or inflamma-

tory change, and microscopic examination by myself and two pathologists showed it to be a giant-celled sarcoma. The same may be true in the case Dr. Grant has reported; personally, however, I doubt whether this tumor is malignant.

J. Hunter Peak: I have had considerable experience with bone tumors and have reported a good many cases to this society. Dr. Grant has reported a very interesting case. I have seen this man on the streets, but did not know who he was until I saw him about the halls at the Deaconess Hospital at the time Dr. Grant operated on him. The condition of the superior maxillary bone was one of the ugliest conditions I have ever seen. At the time I saw him he was recovering from the operation, and I did not see his lower jaw because his face was bandaged.

I think there is hardly any question about this being a malignant condition. From the appearance of the specimen, it was not only malignant, but was undergoing degenerative changes. The text-books all tell us that malignant conditions of the bone are more painful than benign growths; the latter, as a rule, are not painful and do not cause any trouble unless it be from pressure upon the surrounding soft parts. It has been my observation that, in malignant growths of the bone, it is not a great while before they become painful. About three years ago I saw a case of malignant disease of the tibia, and I advised amputation before it had gone too far up, but she would not consent and consulted a number of surgeons before she would finally submit to amputation of the leg. For three years that woman suffered a great deal of pain. When I first saw her the tibia was not much involved, but the disease advanced until in three years there was almost complete destruction of the bone from the ankle joint to the epiphysis above.

I would like to ask Dr. Grant why, if he thinks this other tumor is a chondroma, he did not remove it. A chondroma is a mixture of bone and cartilage and they sometimes grow quite rapidly. We usually find them in the neighborhood of a joint. If this tumor of the superior maxillary is of that nature, it seems to me that it would be advisable to remove the major portion of it, because of the deformity of the face it produces.

W. C. Dugan: I think there is some doubt as to the correctness of the history of this tumor had existed such a short time. I cannot believe that this is a malignant tumor. I have never seen a case of malignant tumor of the jaw where the teeth were not loose (this applies to medullary tumors and not those arising from the periosteum) and this patient's teeth are perfectly solid. However, it may be that I am wrong in that position. Certainly it is very peculiar to have a combined process of inflammatory condition and malignancy going on hand-in-hand. I am inclined to believe, that, owing to there being so much deformity in the upper part of his

face, this tumor was overlooked for some time, and I would like to ask Dr. Grant in closing whether he is sure the history is correct.

I am of the opinion that this is an inflammatory thickening caused by some infection, for it will be noticed that there is hypertrophy of the hard portion of the bone; whereas, if it be a medullary sarcoma, there should be atrophy to such a degree that, in time, it would be but a mere shell, and could be crushed by the pressure of the fingers.

H. H. Grant (closing): I have tried to emphasize the fact that I have made this diagnosis (and it was partly tentative) before I operated for the removal of the tumor, and I made it mainly upon the history of rapid growth. I had not seen this patient for a long time, but he is quite an intelligent man and kept pretty accurate tab on the growth of the tumor in the upper jaw. The latter appeared to have changed very little during the past 15 or 18 years. He said he had begun to notice the enlargement of his lower jaw coming on about two months previously, and pain had been present six weeks. His sister, with whom he lives, confirmed these statements. When I was ready to make incision, I told the family physician, who brought him to me, that I thought the tumor was benign, and was maybe cystic degeneration within the bone, or possibly a true cyst, but when I saw this ulceration, which was just as I show it to you here, I did not consider it safe to split the bone and try to enucleate it out. There was greater risk of its being sarcomatous than there was in doing a radical operation. In view of the fact that the man already had a tremendous deformity, and if it was a sarcoma it would only do him harm to let it alone. I took the bone out. This man had a character of beauty which could not very well have been added to or taken away from. Of course, that side of his face is less prominent than the other, but in the course of a few months he can have a support made which will remedy that considerably. In three other instances I have had a support put in the jaw where I had taken the bone out for malignant disease, and I know that very satisfactory support can be obtained in that way. While it will not help his jaw any, it will support the lower part of his face.

In answer to Dr. O'Connor, I will say that I made diagnosis, not so much because of the pain or because of the ankylosis, as because of the rapid growth of the tumor. I had great confidence in the report this man gave me and it was upon this that I based my conclusion. I think I stated that ulceration is not rare in benign tumors. It is, perhaps, not common, but does occasionally happen, and this ulceration was undoubtedly the cause of the suppuration that I found in the soft parts, but I am inclined to believe that the condition arose in the central cav-

ity of the bone, that it was sarcomatous, and that at least the doubt about it justified me in

With reference to Dr. Dugan's remarks in regard to the teeth becoming loosened in malignant disease of the jaw, I do not believe my attention has ever been called directly to that, as independent of the direct destruction of bone.

SOME ADDITIONAL EXPERIENCE WITH THE DIRECT LARYN- GOSCOPE.

BY GAYLORD C. HALL, LOUISVILLE.

I have heretofore reported work with the bronchoscope and esophagoscope before the Society. To-night I wish briefly to report some of my experiences with the direct laryngoscope and show its possibilities in intra-operative laryngeal work and its advantages over the older method.

The chief advantage of this method lies of course in its direct view. On bringing the cords into view, one can with certainty and precision touch any desired spot without having to school himself to move all things in a direction opposite to the one in which he wants motion to take place.

The most cursory experience with intra laryngeal operative technique by the indirect method convinces one that it is extremely difficult, even for one of experience; that the results are by no means certain; that it takes considerable preliminary study and practice with the manikin; that it presupposes an extremely tolerant patient, or one who can be made so under the influence of a local anaesthesia the method is nearly so, if not quite impossible.

It therefore eliminates at once the most numerous and at the same time most important class of patients, namely children, since they furnish us with the largest and most important number of cases.

All these objections are overcome by the direct method. General anaesthesia is just as effective and the difficulties no greater than under local anaesthesia. It is therefore applicable to children, nervous adults and those who cannot bring pharyngeal muscles under control, who by persistent gagging and retching make an examination, much less operative work an impossibility.

The direct method is also more certain; it does not entail the effort and preliminary training that the other method requires and enables us to do more thorough work.

In addition, it opens up the air passages and gives a view down to the bifurcation of the trachea and by passing the instrument over the glottis for a few seconds and lifting forward the first two or three inches of the

oesophagus are brought into view for diagnosis, or the removal of foreign bodies, as two of my cases illustrate.

Case 1. Removal of common pin imbedded in lateral ventricle of larynx. Colored boy aged seven years. City hospital. The night before a pin had become lodged in throat. This had caused some retching and gagging, finally occasional cough. These symptoms were paroxysmal and when I saw him nearly twenty-four hours after, he located a sticking feeling in throat down on left side.

The examination was accomplished under local anaesthesia with patient upright, head and neck in extended position.

The separable slide speculum was passed over the dorsum of the tongue till the base of the epiglottis was reached, the whole larynx then pulled forward, bringing the cords into view. This disclosed a common wire pin, its point imbedded in the left lateral ventricle about three-fourths of an inch. The head and remaining portion of the stank was inclined to the right side, but sticking up free from all attachment. A forceps was passed and the offender easily removed.

I grant this could have been removed by the old method, but not with the certainty and ease with which it was accomplished in this way.

Case 2. Nickel impacted in the oesophagus of a two-year baby six days. Case of Dr. Hendon's, University Hospital. Removed under general anaesthesia by passing laryngoscope over glottis and pulling all the structures forward, thus opening up the oesophagus. The coin was seen firmly imbedded behind the cricoid cartilage. It was seized with forceps and removed. Patient relieved, left the hospital on third day. (Case previously reported).

Case 3. Piece of bone with sharp edges imbedded on posterior wall of oesophagus behind cricoid cartilage. Removal by direct laryngoscope under cocaine.

A. H., age 20 years, seen September 8, 1909. While hurriedly eating dinner three days ago he thought he got a bone in his throat. A soreness in throat developed with pain and difficulty on swallowing. Patient consulted Dr. Chas. Moir, who examined the upper part of the pharynx and larynx with negative results. After two days, while the pain was no worse, the increased secretion, foul breath and added difficulty in deglutition sent him back to the doctor who kindly referred him to me.

On examination I found pulse 105°; temperature, 99°. Had increased secretion in throat, foul breath, pain on pressure backward directly above clavicle. Upper pharynx naso pharynx and larynx examined under

cocaine by indirect method. This was absolutely negative with no signs of inflammation present.

I was about to dismiss the patient when I considered the symptoms of which he complained together with the absence of signs above pointed to trouble lower down. Accordingly the direct laryngoscope was called into service and the upper areas inspected with negative results. Turning our attention lower, the whole larynx and trachea down to its bifurcation showed beautifully. No foreign body was to be seen.

Cocainization of the upper part of oesophagus elicited the statement that there was the sore spot. After thorough cocainization the patient was told that his breath would be shut off for a few seconds, the tip of the instrument was slid behind the epiglottis and over the glottis. I then pulled the whole larynx forward as in the other case, disclosing the upper part of the oesophagus.

The foreign body, which proved to be a portion of a rib bone about $\frac{3}{4}$ by $\frac{1}{2}$ inches, with very sharp edges, was seen sticking on the posterior wall of the oesophagus. It was carefully removed without laceration of the wall.

Patient complained of weakness for about an hour following. This seemed natural, as he had eaten nothing for about three days. Uninterrupted recovery.

I wish to call attention to these cases, first because it shows that foreign bodies impacted in the upper portion of the oesophagus can be removed by the direct laryngoscope by passing the tip backward over the glottis as I have described.

It is a little point in technique that I have not seen described elsewhere and is of great benefit since it obviated the passing of the oesophagoscope, an instrument much more difficult to work through.

Another point in regard to the second case that should be emphasized, is that the possibility of damage in attempts to extract such a sharp body by the old method is immeasurable and would probably have resulted in the death of the patient.

Case 4. T. B., age 50 years. Seen December 6, 1908. For several days complained of a sore spot on left side of neck, but he has had more or less hoarseness for several weeks. General health good. No previous history has any bearing on present condition. Examination of larynx by indirect method was difficult and not altogether satisfactory.

Patient was told to return next day when direct laryngoscope was used. This showed the condition beautifully, which consisted of a growth partially subglottic on left side on arytenoid cartilage. Redness extends up side

of larynx a trifle. On summit of growth is a grayish spot of ulceration.

The question of malignancy was at once raised on account of the patient's age, the method of onset and the absence of other history. I requested consultation; patient went to Dr. Pfingst and later to every other laryngologist in town. Getting varied opinions he went back to the country and did nothing and there has been apparently no development of the condition.

The case is of interest chiefly because of the difference in view of the two methods. Had I used the indirect method alone I might readily have overlooked the condition, since it was very difficult to see, but with the direct method the view was very satisfactory.

SUPPURATIVE ARTHRITIS.

By S. C. McCoy.

This case of *Suppurative Arthritis*, presented to you to-night, came under my observation December 2, 1906.

At that time the patient was eighteen years of age, and weighed one hundred and twenty pounds.

Father died at the age of fifty-eight years of cirrhosis of liver.

Mother living and in good health.

Has two sisters living, ages twenty-four and eight years respectively.

One brother living, eighteen years of age, in good health.

Sister twenty-four years of age, has had some enlarged cervical glands, suppurative ear for one year, at the age of seventeen.

Sister eight years old, has been an invalid since three years of age.

One sister died at the age of two years, of cerebro-spinal meningitis.

One brother died at the age of three weeks, of convulsions.

The *Pathology and Treatment of Suppurative Arthritis*, I am sure the members are all familiar with, and it is not my purpose in presenting this case to the Society, to claim any thing new or original in the treatment of this disease.

But a point which I thought might be of interest, and the one prompting me to present the case, and also, the one along which a great deal of interest has been shown of late, is the excellent degree of health that may be obtained in this class of patients in our own vicinity by the application of the well known methods of treatment, and management of these cases as are laid before us and of which we in many instances can adopt.

The patient when I first saw her, presented a typical case of suppurative arthritis of

the knee, of two months' duration, with the usual group of symptoms attending these cases.

On examination I found the knee discharging from two points, one on the inner surface, and the other on the outer surface, (the scars now showing the openings at the time).

I was able to pass a probe through the joint under the patella, passing out on the opposite side, also to irrigate through.

I was able to probe also to outline a cavity extending upward on the inner surface of the femur, a distance of four inches, and one inch wide. The long scar now indicating its location.

The patient's general condition presented that of a system loaded with pus, (as you might expect from the amount of surface involved in suppuration) having night sweats, elevated temperature, frequent chills, suppressed menses for several months, etc.

The patient gave history at this time of having an open knee, three years previous to this time. The knee discharging for three months at that time. Finally the discharge stopped, and the wound healed, leaving the knee stiff for several months, but finally regaining its function almost completely and remaining in this almost normal condition, a period of three years, in which there was no symptoms of any suppuration, and aside from a slight impairment of function the disease was entirely of no consequence.

When first called I was advised by the family that amputation had been insisted upon by the surgeon in attendance, and they had absolutely refused. I was of the same opinion, and advised the same, but was positively refused by the family.

But they insisted on me exerting every possible effort to save the leg, which I did with great reluctance. But the gradual response to this expectant plan of treatment encouraged me to continue until the patient was entirely relieved.

Treatment consisted of posterior splint to immobilize, and daily irrigations of normal saline; opening the sinus its full length, treating it with carbolic acid and alcohol, and packing daily with iodoform gauze. The irrigations were gradually stopped; as was the treatment to the sinus, both healing nicely.

The patient after two months was sent to the country with a hope of improving her general condition, put on constitutional treatment, consisting mainly of tincture of iron, or changing sometimes to some other form of iron, cod liver oil, olive oil, etc. The patient was allowed any diet containing a tissue builder. As to the diet, we followed

the same plan as the medical treatment, *plenty of it*. Using mainly meat, eggs and milk, always pushing one to distaste, then changing to the other.

DISCUSSION.

J. Rowan Morrison: There is one point I would like to bring out. In these chronic suppurative conditions, not only in the bone but in other parts of the body, the thing we have to rely upon for final recovery is building up the general condition of the patient, making a lot of good red blood, and bolstering up their resistance. In chronic suppurative bone disease, these patients become very septic and frequently abscesses develop on other parts of the body; they have night sweats, loss of appetite and look like they are going to die. In such cases, if the patient is given plenty of iron, an improvement will be noted. And here I believe the old tincture of iron, in 15-drop doses, three or four times a day, will prove to be a very valuable agent. Often a little quinine, in small doses, will increase the appetite and give these patients an amount of resistance which you would hardly expect them to have. Many of these patients will not take the right kind of food unless you absolutely insist upon it. They do not care for milk, or eggs, or anything except sweets, or some other foods that they ought not to have. By gradually training the patient to take milk, cereals in different forms, fats, and working in eggs in different ways, you will be surprised how they will build up.

G. A. Hendon: I am very glad to have seen this case, because it illustrated one of the most important new features that has been brought out in connection with these joint infections. It has only been in the last few years that these infections have been properly recognized. I presume (I did not hear Dr. McCoy make the statement) that this was tubercular. What rest and fresh air can accomplish in these conditions is perfectly astonishing, and particularly in some sections of the country. Dr. Edward Ochsner has reported quite a long series of cases similar to this one in which he accomplished great good by the use of vaccine in addition to these other methods of treatment. They are now abandoning active surgical measures, and eliminating in particular the old reliable curette, in the management of these cases, and relying almost absolutely upon rest, fresh air and good food, and are saving many joints that we formerly sacrificed.

Thos. K. Van Zandt: Having a case of this kind fresh in my memory, I want to congratulate the doctor very heartily upon the splendid result he has secured. In most of these cases we do not get such good results; there is nearly always more or less impairment of function. In the case that I had, the main trouble was im-

pairment of function afterwards, which persisted in spite of treatment.

Most of these cases of chronic joint disease are tubercular. Even though there may be a question as to the diagnosis, I think we ought to give the patient the benefit of the doubt and treat these cases, for a time at least, as if tubercular involvement were unquestionably present.

I am glad the doctor did not amputate. I think immobilization and constitutional treatment, which he carried out, is the best line of procedure.

J. T. Dunn: I think in Dr. McCoy's case, we have a very valuable lesson on this particular point; that we so often advise an amputation and the patient refuses, and then by persistent treatment we are able to save the limb.

Not very long ago I brought a patient before this society in whom the ankle joint was involved. In this case the patient herself insisted upon amputation. I opened the joint and found the articular surface entirely destroyed, the cartilaginous surface gone and the tibia and astragalus involved. I curetted the articular surface, cleaned the bony structure off, irrigated it and instituted thorough drainage, and you saw this patient walking without a limp. Convalescence was a little tedious, of course, but she now has a good, useful foot and she is thankful to me that I did not amputate it.

I have a patient at the infirmary now; two weeks ago I opened the joint on the outside, dislocating the foot inward and turning the sole of the foot directly toward the knee, thus exposing the astragalus and tibia. I found the articular surface and cartilage entirely gone. I cleaned the bones and put them back in former position and splinted with a wire splint. The pain subsided, the temperature disappeared, and the patient is convalescing. The last case is tubercular.

Dr. McCoy has obtained excellent motion in his case. I think we can save the limbs of many of the patients. Drainage is the principal thing.

B. F. Zimmerman: The point of interest in this case, as in a great many of these joint conditions, is the element of trauma preceding the condition. Recent experiments tend to show that, in simple cases at least, trauma is always a factor. It has been shown recently, by Murphy, that practically pure cultures of pus-producing organisms can be injected into a healthy joint without deleterious effects. In the same dog, however, if, after injection of the organisms, trauma is exerted upon the articular surface, suppuration will occur at that point. This shows the wonderful power of the synovial membrane to ward off these infections if the surface is not injured in any way; that is to say, these organisms are apparently not capable

of exciting a true arthritis unless the element of trauma is present.

S. C. McCoy (closing): I wish to thank the members for the liberal discussion they have accorded my case. I did not attempt much scientific investigation of any kind. There has been no skiagraph made, nor any bacterial examination. I presented the case more on account of the general condition of the patient at the present time. She has weighed 185 pounds for the past two or three years and has enjoyed the best of health.

CARCINOMA OF THE PANCREAS.

REPORT OF CASE.

BY DUNNING S. WILSON, LOUISVILLE.

On January 19, 1909, Mr. G., a gentleman about 60 years of age, called at my office complaining of slight pain in the side. Upon examination this pain proved to be in the region of the gall-bladder. As it was night, I did not make out the fact that he was slight-jaundiced, but when he called at my office two days afterward, in the day-time, the fact was noted. A tentative diagnosis of the catarrhal condition of the duct was made, and he was put on olive oil in large doses with a restricted diet. The pain was at no time very agonizing, but the discomfort continued for a week or more. The stools were clay-colored. There was no exhaustion; pulse good and appetite fair. As he did not improve and seemed to be losing weight, I asked for surgical consultation and Dr. Abell saw the patient with me on February 11th. Operation was done on the 12th. I had changed my tentative diagnosis of catarrhal obstruction of the duct to that of gall-stones. Dr. Abell leaned to the idea of malignant trouble. His report, which follows mine, will show the exact condition which prevailed.

REPORT OF CASE.

BY CHAS. G. LUCAS, LOUISVILLE.

Patient M. C., aet. 38; single. Beyond the fact that her father and mother both died at an advanced age of pneumonia, family history negative. As a child, patient had chills and for a number of years had "spells with her stomach." These attacks were attended with vomiting and she was usually confined to bed for several days. Beyond this, she had never had any serious illness. About the age of 28, she had a very bad fall from a step-ladder and several years later fell backward off a stage. Neither fall confined her to bed, but were the subjects of long standing complaint. In September, 1908, she complained of pain in her back and had noticed a small lump just above the um-

bilious. She began to lose flesh but had a steady increase in her waist line measurement. I saw her for the first time in the latter part of January, 1909, at the request of her physician, the late Dr. H. M. Clendennin, with the idea of making a gastric analysis. Owing to the unsatisfactory result of the first examination, I saw her five days later at my office. Examination revealed a tumor about the size of a lemon in the median line just above the umbilicus, not particularly sensitive to touch. Gastric analysis showed free acid 19; total acidity 50; no blood or Boas-Oppler bacilli. Examination with the gastro-diaphane showed a "fish hook" form of stomach, the diaphane passing down the median line about one inch below the umbilicus and then up to the right disappearing under the liver. An operation was discussed at this time and the possibility of a malignant pancreas considered. Blood examination was made by Dr. B. J. O'Connor and will be referred to by him in his discussion. I saw her again about one week later during Dr. Clendennin's illness and after his death. I continued to attend her. She was suffering more pain and had decided nausea. There was no enlargement of the liver and at no time any jaundice. Urine was normal at this time. Exploratory operation was urged by Dr. Abell, (who had meanwhile seen her), and myself. She was operated on February 12, 1909, and the malignant condition of the pancreas was evident, with secondary involvement of the spleen. The abdomen was closed very promptly and after remaining ten days in the infirmary, the patient was taken home. She failed very steadily, and the tumor continued to grow. During the last few weeks she had almost complete anuria; she was scarcely able to swallow and breathed with great difficulty. Constipation was marked. At no time in the progress of the case was sugar ever found in the urine. Her pain was intense and required increasing doses of morphia for relief. Death ensued thirteen weeks after the exploratory operation. Post-mortem by Dr. Clem Spalding three hours after death revealed the condition shown here tonight.

EXHIBITION OF SPECIMENS.

BY IRVIN ABELL, LOUISVILLE.

The specimens presented by Doctors Lucas and Wilson have a great interest, being typical of the two types of carcinoma that occur in the pancreas. The operation, in both instances, amounted to nothing more than an exploration. In Dr. Lucas' case, the growth evidently originated in the body of the pancreas, since at no time was jaundice present.

Had it involved the head of the pancreas the latter symptom would have become manifest. At the time the exploration was made metastasis in the spleen had occurred and there was marked involvement of the lymphatic glands; this dissemination rendered a removal of the growth impossible. Had she come to operation early, before such dissemination occurred, a radical operation would have offered the possibility of success since a portion of the secreting structure, with the ducts emptying into the intestine, would have been left behind.

In Dr. Wilson's patient, the symptomatology, which he has given you pointed very clearly to malignancy and the exploration was made with a view to definitely settling the diagnosis and to discover if a removal was possible. Upon opening the abdomen the gall-bladder was found distended and contained a single stone; there was no stone in the cystic duct and none in the common duct while the head of the pancreas, corresponding to the triangle between the ducts of Wirsung and Santorini, was palpably enlarged and hard. The enlargement was not sufficient to permit of our saying that it was malignant.

Since, in some cases, the only method of determining the enlargement is by palpation, it necessarily follows that, without a normal standard, the distinction between malignancy in its earliest stages and chronic pancreatitis, by such a method, is necessarily fallacious. In operating upon patients with chronic pancreatitis, I have observed upon several occasions such an enlargement and hardness as existed in this case and the subsequent recovery of such patients showed that we were dealing with a non-malignant condition. In this particular case, following our operation, diagnosis rested between these two conditions. After opening the gall-bladder it was drained with a rubber tube; the bile flowed very freely, but the intense jaundice did not subside nor did he show any tendency to recuperate; the emaciation, the weakness, and inability to take or digest food continued; in this way we reached a diagnosis of his condition before death occurred. He was operated on on the 19th day of February and died the 15th of March following. This case and specimen illustrated the type of carcinoma opposite to that shown by Dr. Lucas' patient.

It is stated by Robson and Cammidge that carcinoma involving the head of the pancreas is the most rapidly fatal of all carcinomas, life being rarely prolonged for more than two or three months. In an otherwise healthy person, with an absence of history of gallstones, the gradual failure in health, with di-

gestive disturbance, the onset of painless jaundice of intense degree, with a distended gall-bladder, practically always points to malignant disease of the head of the pancreas. If, in addition to this, the examination of the stools shows, not only a large excess of unabsorbed fat, but that the neutral fat is increased relative to the combined fatty acids, the diagnosis as a rule is practically sure. The obstruction of the common bile duct in cancer of the head of the pancreas is practically absolute and consequently the feces contain no stercobilin. The mode of onset, as typified in Dr. Wilson's case, with examination of the feces and the urine, will, as a rule, differentiate cancer from chronic pancreatitis. The loss of flesh is extremely rapid and cachexia soon becomes a marked feature.

The only type of cancer of the pancreas that permits of surgical removal is the one illustrated by the case of Dr. Lucas—that is, one beginning in the body or tail of the pancreas. If this is recognized early, before metastasis has occurred, a resection of the pancreas, including the malignant area, and leaving behind a portion of the gland with its excretory ducts, is a possible procedure capable of giving permanent relief. After the process once involves the head of the pancreas, surgical removal is not possible since complete extirpation of the pancreas, when not immediately fatal, soon becomes so from the disturbance in nutrition. The palliative operation of drainage of the gall-bladder for the relief of the intense jaundice, is attended with a very high mortality and, in cases which are not immediately fatal, seems neither to give relief of symptoms nor to prolong life.

I have operated upon one other case—which Dr. Lucas will recall—in which pancreatic malignant disease was suspected. This patient had presented symptoms similar to those of Dr. Wilson's patient; exploration of his abdomen revealed the same condition in a more advanced stage. The gall-bladder was distended and easily recognized by palpation previous to the operation. Drainage of the gall-bladder did not afford any relief of the symptoms and the patient died from exhaustion in the course of four or five days. With the disease located in the body or the tail of the pancreas, a certain amount of pancreatic secretion is furnished for intestinal digestion with the result that the disease pursues a much slower course than when the head of the pancreas is involved. This is beautifully illustrated by Dr. Lucas' patient, who survived the exploration some months.

DEMONSTRATION OF SECTIONS.

By BERNARD J. O'CONNOR, LOUISVILLE.

Dr. Lucas' case is extremely interesting for many reasons. First, the difficulty in diagnosis. As Dr. Abell intimates, it was first thought to be a tumor of the kidney. There was a large, distinctly movable mass in the flank, which felt almost like a sarcoma of the kidney. Examination of the blood showed a hemoglobin percentage in the neighborhood of 60, and a red count of something like 3,800,000. The specimen removed at autopsy shows a metastatic carcinoma in the spleen and all of the organs are so matted together that it is impossible to recognize anything. The solid mass just back of the pylorus is the primary carcinoma extending back to the kidney, and forming a large solid mass behind the kidney and the spleen.

One peculiar feature, which was not mentioned, were the changes which had taken place in the stomach. You will observe that the thickness of the stomach wall is about four times greater than normal, especially near the pyloric extremity. I have prepared sections of the specimen for the society from the head of the pancreas itself.

DISCUSSION.

G. A. Hendon: For the sake of amplifying the record on the subject of malignant disease of the pancreas, I hope Dr. Lucas will not fail to mention a case which we saw together, and one in which we both made diagnosis of malignant disease of the pancreas, based entirely upon the clinical symptoms. There was no enlargement, no tumor formation, and no jaundice. There was severe digestive disturbance, very rapid and pronounced loss of flesh, and, most conspicuous of all, a very profuse and offensive diarrhoea. We stated very positively to the family of this patient that there existed a malignant disease of the pancreas, but that, in view of the obscurity surrounding the previous history, we were anxious to confirm our diagnosis by exploratory incision, which, through the courtesy of Dr. Lucas, I was allowed to make. I found the pancreas not enlarged, and showing no other evidence of pathologic alteration than a very firm, indurated condition. The operation confirmed our diagnosis, the patient lived a month or six weeks afterward.

One very interesting feature of the case presented to-night is the involvement of the spleen. We are all aware of the fact that, for many years, the spleen has been justly celebrated for its immunity to malignant growths. I had occasion to investigate the literature on account of a case of my own, and I had a very thorough search made of the history for something like fifty years back, and in all that time there could

be found a record of only about thirty cases of primary malignancy of the spleen. Also, involvement of the spleen secondarily I discovered to be an exceedingly rare occurrence. All the other organs in the abdomen may become carcinomatous and the spleen enjoy immunity. Only about three or four weeks ago I had occasion to open an abdomen which was filled throughout with carcinomatous growths—in the mesentery and all through the abdominal viscera with the exception of the spleen. I will say that in these cases no post-mortem was held and the reports I make were based purely upon what was revealed at operation.

The involvement of the spleen in the case reported here to-night may be accounted for by the fact that the pancreas lies in direct contact with the spleen, and, of course, the infection would be more readily transmitted than if the process had to travel over considerable intervening tissue to reach the spleen.

This immunity of the spleen to malignant growths has never been satisfactorily explained. At the time I investigated the subject it seemed to be the consensus of opinion that the thick capsule which surrounds this organ probably accounts for the protection. I am very glad to have seen these specimens and to have heard the report.

Chas. G. Lucas (Closing): All four of these cases occurred within a very short time.

In the case Dr. Abell referred to—the man who died three days after operation—there was this curious feature about his history. I had seen him about six months previously. He lived about 70 or 80 miles from here, and I told him I felt sure he had trouble with his gall-bladder and that an exploratory incision should be made. He would not listen to his, however, and went home. He wrote me afterward that he might possibly consider operation; in fact, he made an engagement to come here, and it was then that I learned that, shortly before I had seen him, he had lost his wife from carcinoma of the intestine. Dr. Abell saw the case and explained to him very frankly what he thought the condition was. He was very strong in his belief that the man had a malignant condition, but the patient made up his mind that he would take advantage of whatever chance operation might give him. In this case the patient was markedly jaundiced, but in the case I reported to-night, there was no jaundice.

Dr. Clendennin's patient was a very peculiar woman. She had suffered for a long time prior to September, 1908, but had said very little about it, and it was not until long in December that she consulted Dr. Clendennin, and at that time she had noticed that, since September, a tumor had been growing just above the umbilicus and she had been gradually losing flesh, but she re-

marked that her waist-line measurement had been growing larger all the time.

I first had the pleasure of seeing the case Dr. Hendon referred to in consultation with Dr. Leavell. When the latter went away on his vacation I continued to attend the patient and it was while he was away that Dr. Hendon and I examined him. A marked feature of both of these cases was a profuse and offensive diarrhoea and continued loss of flesh. We both felt at the time of operation that it would be an "ante-mortem P. M." He lived about a month afterward.

A feature of the case that I reported, as compared with the others, was the fact that the patient lived thirteen weeks after the operation.

In regard to the involvement of the spleen, Dr. Abell said that he had several times seen secondary carcinoma of the spleen, but this is the only patient in whom I have seen it.

STRANGULATED VENTRAL HERNIA DUE TO A FALL.

(EXHIBITION OF PATIENT).

BY J. HUNTER PEAK, LOUISVILLE.

This man is 70 years of age, an old soldier, who passed through the Civil War without any accident incident to military life. He has never been ill and was never afflicted with any troubles incident to the food that soldiers have to eat. This is evidenced by the fact that, while he is 70 years of age, he still has all of his teeth.

About eight years ago this man fell from a pile of lumber, but he suffered little inconvenience from the fall and did not know that it had hurt him. In fact, I do not know that his present condition is the result of the fall, but two weeks later he noticed a small tumor just about McBurney's point. However, this bothered him very little. It was reducible and was easily held in place by a peculiarly shaped truss which I had him bring here to-night.

On Sunday morning, December 26th, he slipped on the icy ground and fell, producing a condition of obstructed hernia, and enlarging the ring he already had by probably 1½ inches. A mass of intestines and omentum, probably as large as his head, came out into the subcutaneous fat and could not be reduced. After attempting it several times, I was sent for, but was not able to accomplish anything in the way of reduction, and sent him to the infirmary, where I operated on him. Under anesthesia the reduction was made and the hernia cured.

The method used to relieve this condition was one which I have used in other cases on which I have operated for large ventral hernias. The sub-cutaneous fat is dissected well

back from the hernial ring, not destroying all the sac after its dissection, but using a large portion of it, carrying it back and overlapping it on either side as far back as the skin was dissected, making the two portions of the sac lie close together.

On account of the large amount of fat in these cases, it is always necessary to drain, and particularly in cases of this kind where there has been considerable trauma. When I first saw this man, there was a discoloration extending from the median line over the entire right side and right hip. In making the incision through this, we come upon little pools of dark blood that had not clotted, and in dissecting the fat in each direction, we came upon similar pools of blood.

I do not know exactly where the ring was located, and simply made an incision through the most prominent part of the tumor, but upon getting farther in I discovered that the center of the ring was almost at the upper end of my incision, the new tear having occurred in the lower side of the original ring.

I have already mentioned the fact that drainage is always necessary in these cases. In this case there was a considerable amount of broken-down fat, looking almost like melted butter, but there was never any infection and the scar looks perfectly healthy.

The original opening appeared to have been about one inch in diameter, which was increased $1\frac{1}{2}$ inches by his fall.

Another point I wish to mention is that, as this man is very large and the nurse could not handle him very well, he was put almost in a sitting position and kept that way to avoid the danger of hypostatic pneumonia.

Just as soon as the constriction was relieved the intestines regained their normal color. A small portion of the omentum was adherent in the upper part of the old ring and this was dissected away. He was on the table not longer than 30 minutes. That afternoon and night he was given a large dose of castor oil, and his bowels moved nicely. His recovery was uneventful.

DISCUSSION.

A. E. Gardner: This case, while not difficult, is rather an unusual one. These hernias very rarely occur in this particular part of the abdomen. In a man of this age, on account of the intra-abdominal pressure and normal weakness in the region of Heckelbeck's triangle, we would naturally expect a hernia to occur in that region.

The only criticism of any sort that I would make would be in regard to the doctor's statement that he makes a practice of draining in these cases. While it was possibly the proper thing to do in this particular case, I should think it would not be best as a routine practice.

I believe it is better to close these cases up in the usual way, where they are clean, with no suppuration, or any especial indication for drainage.

Wm. C. Dugan: It has been my experience that, in old and fat people, this is just the location where one would expect to find these ventral hernias, and that they rarely occur in Heckelbeck's triangle, as suggested by Dr. Gardner. I may be mistaken, but that has been my experience. I have had three similar cases, all in very fat women, and I treated them very much as the doctor has treated his patient, with uniformly good results.

I want to indorse everything Dr. Peak has said in regard to drainage in these fat abdominal walls, and I will go a little farther. I do not care where there is any traumatism or not, I think drainage is decidedly preferable to closing the wound up.

Jno. B. Richardson, Jr.: In this particular case, I think there is no question as to the advisability of drainage, but, with our present excellence of technique and attention to cleanliness, I fail to see the indication for drainage in every case. I believe if our technique is carried out as it should be, drainage is not indicated even in fat individuals. I have seen a great many abdominal wounds in fat persons which were not drained, and I have operated on a number of such cases myself. None of them were drained and none of them became infected.

Wm. H. Wathen: I must oppose drainage in these cases. In exceptional cases, such as Dr. Peak has reported, drainage is not only indicated but your patient will do better under it. Even in fat individuals, where you do extensive dissection, and remove large quantities of fat, I think drainage is the very thing you do not want provided your technique is perfect. I think the best feature of Dr. Coley's work, and the one which enables him to never have any suppuration, is that when he operates for hernia, every bleeding point is instantly caught with a haemostat, which is never removed until the operation has been completed, and then only after a ligature of small No. 0 catgut has been thrown around it, so that when the wound is closed it is perfectly dry and there is no necessity for drainage. Where there is injured tissue, of course we must have drainage. Dr. Peak's case I consider was primarily a traumatic hernia, and the last trouble was also traumatic, and in this connection I wish to relate a rather peculiar case.

Two years ago a gentleman was brought here from South Carolina, with an abscess on the right side, just above the costal margin, about three inches in diameter. It was opened and pus and fecal matter was discharged, and it was discovered that there was an opening going down just under the costal margin. Upon dis-

secting through this opening, we pulled up the hepatic flexure of the colon, with an opening, nearly as large as a silver half dollar, dividing its thickness transversely. It was carefully sutured by a double layer of sutures and the man made an uninterrupted recovery. This case illustrates how traumatic hernias come about. This man had been thrown from a car and fell heavily on his right side. In Dr. Peak's case, the first hernia doubtless was the result of traumatism, with exacerbation as the result of further traumatism.

J. Hunter Peak (closing): In the first two or three cases of large ventral hernia that I saw—two of them following operations for appendicitis—the thick abdominal walls were not drained, to my later sorrow, but in the last two or three years I have made a practice of draining every one of them. Take, for instance, these hernias following a central incision, with the ring spread out as large as when the four fingers and thumb are placed together, and the intestines have come out producing a sac. I have seen them extending to the crest of the ileum on one side and almost to the pubic arch in the median line below, and in one case I remember it was necessary to dissect down into the vulva on either side. Where so much dissection is necessary, it is impossible to avoid considerable trauma to the fat over it. It is not a normal fat. The patient is usually past middle life, and the fat is very soft and not in a normal condition, and when you have finished the operation, you have a large raw surface over the muscular structures of the abdominal wall. If you do not make the dissection wide enough and overlap it sufficiently, you risk a return of the hernia. I have never known them to break loose when strong enough catgut (No. 2, at least), was used and plenty of sutures put in. Simply cut off what you do not want of the sac, overlap it as much as seems necessary, suture it, and then put in your drains. Sometimes I put in special drains. I have a patient in the infirmary now with two flap incisions just above the flexures of the groins and one in the median line below, at the pubic arch.

I drain every one of these cases, and they all get well, barring infection, of course, which is a possibility in every case.

Liver Cough.—Jona has encountered two cases of enlarged liver, accompanied by aortic insufficiency, but with no signs of any affection of the respiratory organs. In both cases palpation of the liver caused a severe, dry cough, or, when the pressure was slight or very brief, the musculature of the abdominal wall contracted and the respiration was arrested for a moment with congestion of the veins of the neck, but without any actual cough. It is evidently a reflex phenomenon.

ABSCESS OF THE LIVER.

(OPERATION BY TRANS-PLEURAL ROUTE.)

By B. F. ZIMMERMAN, LOUISVILLE.

This patient, who is 24 years of age, was taken sick on the 18th day of October, 1909. Two days prior to this he had noticed a little discomfort in the epigastrium, as of the presence of a weight of some kind in the stomach. Tenderness was marked from the beginning, with rigidity of the right rectus muscle. He had chills, fever, and sweats, and it was thought that an enlargement could be made out under the right costal margin, and the tenderness at that point was exquisite. Diagnosis was made of gall-bladder trouble and operation was refused. At the end of about 2½ weeks this pain subsided, and about the same time an upward enlargement of the liver was noted. In the earlier stages of the trouble, examination of the chest had failed to reveal any trouble with the pleura. This upward enlargement of the liver continued, and with it the subsidence of pain in the right hypochondrium. About two weeks after this enlargement was noticed, diagnosis of abscess of the liver was made. Still operation was refused and, about three weeks later the pleural cavity having filled up and his temperature running rather high, I aspirated to see whether there was any pus in the pleural cavity, but obtained nothing but a bloody serum. On the following day I decided to aspirate as low down in the pleural cavity as possible and withdraw this accumulation of fluid, so as to better determine the position and size of the liver. In attempting to aspirate, I passed the needle into the ninth intercostal space, directing the point well upward as I thought. However, the needle failed to enter the pleural cavity, but I continued to introduce it and withdrew some pus of a peculiar chocolate color. There was then no question about the location of the abscess, and I urged him to go immediately to the infirmary and be operated upon, but he refused to do so and, in fact, did not go to the infirmary until about two weeks after that.

An opening was made in the posterior portion of the thorax, and an effort made to get the pleura up and open through the diaphragm, by the extra-pleural route. This, however, could not be accomplished. The diaphragmatic pleura is naturally very adherent, and here the trouble had extended up and involved the pleura, and it was so densely adherent that it could not be separated. Therefore, in order to open the abscess from what I considered a safe point, we went across the pleura, opened the pleural sac and attempted to bring this down and suture it

to the diaphragmatic pleura, but it would not hold. We tore it every time we attempted to bring it down and suture it, so the pleural cavity was walled off and an incision made through the diaphragm, after first passing a needle down, with which we could feel the abscess very distinctly on the upper surface of the diaphragm and apparently about three inches from the costo-phrenic angle; that is to say, the diaphragm was pushed up and folded over, so that from the angle to the point where the abscess was most prominent was something like three inches. An opening was made through the diaphragm and the pus evacuated. A tube was inserted and drainage was perfect. After a few days some little bile escaped with the pus. The packing was left in the pleural cavity eight days and then, thinking the cavity was walled off, it was removed. A considerable quantity of serum escaped, and there was slight infection involving the angle at that point, showing that the cavity was not completely walled off. He had a stormy time for a week or two, then began to improve and finally made a complete recovery and has gone back to work. There was considerable collapse of the right lung for a while, but under breathing exercises this has improved.

The abscess was perfectly walled off and adherent to the diaphragm, and in a very short time would have undoubtedly perforated the diaphragm and gone into the pleural cavity. There was no need of walling off the peritoneal cavity as would have been the case had the abscess been located deep in the liver structure. Then, of course, we would have sutured the tear to the diaphragm and left it a few days before opening the abscess.

DISCUSSION.

A. E. Gardner: I do not care to discuss this case except to congratulate the doctor upon the successful management of it and the beautiful results he has obtained in a surgical way. His description of the case reminded me of one which I had in my early practice illustrating the fact that there is a great deal of danger in these cases, of the sac rupturing into the diaphragm and into the pleural cavity. This patient was a spinster, about 50 years of age, who had a very large abscess of the liver, the exact nature of which I was never able to make out until it terminated favorably. The abscess had evidently formed in the gall-bladder and pursued its course for several weeks, or probably a month or two, I do not exactly remember. At any rate, there was considerable distension of the abdominal wall, and the history was very similar to that in Dr. Zimmerman's case. The interesting feature of the case was that the abscess finally

ruptured into the pleural cavity and worked its way through the lung, and pus was expectorated through the bronchial tubes. Finally, after a long illness, she coughed up several small gall-stones and got well.

I mention the case simply because it illustrates the danger of rupture into the pleural cavity and the lung. While this patient recovered, still there is a great deal of danger, and in the majority of such cases, of course, the proper course to pursue is surgical interference. The result is much more satisfactory, the prognosis more favorable, and we save the patient a great deal of suffering.

W. C. Dugan: I wish to congratulate the doctor upon the result he has obtained in this case.

Several men near me have been inquiring as to the presence of jaundice in such cases as this. I believe it is the exception to the rule to have jaundice in abscess of the liver, and never unless there is involvement of the lower part of the liver when the duct is pressed on and obstructed. About eighty per cent. of them are on the right side and on the upper surface of the liver, either pointing toward the diaphragm or to the anterior-posterior abdominal wall.

I think this was a very timely operation if you will excuse the expression, but it came very near being untimely because of the delay. The bloody serum in the pleural cavity was very clearly the result of an attempt by Nature to cut through, just as we find in appendicular abscesses or pelvic abscesses discharging through the bowel, we have few discharges of serum just before the rupture takes place.

I am quite sure that this was either a streptococcus or staphylococcus infection; the history points clearly to that, and an interesting feature is that there was no history of any trouble about the alimentary tract; no history of operation for hemorrhoids, etc., which simply goes to show that we cannot exclude abscess of the liver in cases in which there is no history of dysentery, or of operation for hemorrhoids, or appendicitis.

I wish to endorse everything Dr. Zimmerman has said in regard to the trans-pleural route for this operation; it is decidedly preferable to the abdominal method of approach. It has been my experience to find the two layers of the pleura adherent, thus rendering it perfectly safe so far as collapse of the lung is concerned.

J. Hunter Peak: I have had one case that I recall now, of multiple abscess of the liver following appendicitis, for which the patient was not operated upon and was supposed to have gotten well without operation. However, the post-mortem in that case showed that there was still some trouble about the appendix.

It seems to me that, from an anatomical standpoint, the trans-pleural route is the ideal

method of entrance in these cases. The only disadvantage that occurs to me would be the collapse of the lung. In this case, of course, the lung had already collapsed because of the accumulation of fluid. If there is no fluid in the thoracic cavity, I think the danger is greater. If the lung is compressed by fluid, it is not as dangerous as by external influences, such as air. In an operation of any kind, where you open the thoracic cavity and have collapse of the lung from air pressure, it is very apt to stay that way. On the other hand we find that, in pleurisy, even where we have severe adhesions following, the lung will go back to its normal condition, or nearly so. Therefore, it seems to me that, while the delay in this case was apparently dangerous to the patient, it may have been providential, because the lung was already collapsed and the operation relieved the pressure and allowed it to go back to its normal position.

John W. Price, Jr.: Some years ago it was thought by a number of eminent surgeons throughout the country that the most favorable termination of abscess of the liver was for it to rupture into the pleura and then be discharged through the lung, and that such cases recovered in about the same proportion, or an even higher percentage, than those cases which were operated upon.

In Dr. Zimmerman's case, I think he is to be commended upon the selection of the route, and I believe in other cases where abscesses of the liver shows itself as disturbing the diaphragm and pleura, and the lung is compressed by the pleural effusion, the trans-pleural route is the one of choice. I think the pleural cavity is more resistant than the peritoneal cavity, and that there is really less danger in operating by this route than by opening through the peritoneum and attempting to wall off and drain.

Wm. H. Wathen: Dr. Zimmerman did the best operation possible in this case, because Nature had already prepared the case for that sort of work. In some cases, where the pleural cavity is not involved, it is still the best operation to resect, say two ribs, then suture, in a circular manner, the parietal and deeper pleural membranes, and open between them, so as to prevent infection of the peritoneal cavity. Sometimes, of course, it would be better to make an incision just as we do in the operation for cholecystostomy, with excellent results. Sometimes by a resection of the costal cartilage, and dissecting up under it we get good results. Each case is separate and a law unto itself.

In Dr. Zimmerman's case, I am inclined to believe that there was involvement of the pleural cavity when he did the operation, and that, if he had made an examination of the contents of the pleural cavity when he operated, he would have found practically the same character of

material, and the same character of pathogenic germs.

It is rather a dangerous procedure to aspirate in these cases unless the patient is in the operating room and operation can be immediately proceeded with; otherwise, you may have leakage, which may cause infection of other structures and result seriously. Again, in cases where the abscess is diffuse, if you remove the aspirating needle after locating pus, you may have difficulty in finding it again when you attempt operation, but if you have your patient on the table ready for operation, you can leave the needle in place, and thus you will experience no difficulty in getting to your abscess.

G. A. Hendon: My personal experience with abscess of the liver covers only three cases, which were treated after the earlier method, that of the two-stage operation, opening through the peritoneum. All three cases terminated favorably.

I dislike to hear this subject brought up without mentioning in connection the name of Dr. McGill, who, we might say, devised the trans-pleural operation, or at least popularized it. It was my pleasure to hear him report a series of cases, at the meeting of the A. M. A. in Atlantic City about three years ago.

In this connection, I believe Dr. Murphy has shown, by his experiments, that the fear of collapse is entirely without foundation. I heard him make quite a lengthy report on this subject and he said that the greatest danger of the lung collapsing was in cases where there was a very small opening to the outside, and inspiration would in that case draw quite a large quantity of air into the pleural cavity and expiration would close the small aperture. He showed two ways of relieving that condition; one was by closing the aperture, and the other was by making it larger so as to destroy the valve-like action. His experiments showed that if a sufficiently large opening is made to permit the free ingress and egress of air during respiration, we need have no fear of the lung collapsing, and McGill, I think, has made use of this principle in the work he has done on the trans-pleural route for the evacuation of hepatic abscesses.

B. F. Zimmerman (closing): Dr. Wathen's criticism in regard to aspiration is correct. I should not, and in fact, I did not attempt to aspirate the liver abscess; what I attempted to do was to aspirate the pleural cavity. I should not attempt to aspirate the liver abscess unless I was prepared to proceed immediately with operation. When I discovered that I had gone into the abscess cavity, I urged the patient to go to the infirmary and have this attended to immediately. I withdrew the aspirating needle while there was still a partial vacuum in the bottle, hoping to, in that way, draw all the pus in the needle into the bottle and thereby lessen

the danger of infection of the pleural cavity and intervening tissues. However, there was some little infection of the tissues through which the needle was withdrawn.

Another thing which Dr. Wathen mentioned and which I believe is the best plan, is, in opening up the pleural cavity, to bring the costal layer down in the diaphragmatic layer and suture it there, and even re-enforcing that with a pack, if necessary, thus shutting off the pleural cavity from any possible chance of contamination by pus. In many cases, however, this is impossible and the only thing to do is to pack. Again, we find in some cases that the diaphragmatic pleura in the costo-phrenic angle is adherent to the costal or phrenic pleura, and in that case we can get across without even opening the pleural cavity. Of course, that is a very fortunate condition.

If you had taken the time to examine this patient, you would have noticed that his lung was still somewhat collapsed. Following the operation, he had marked depression in the sub-clavicular region, but this, under breathing exercises, is disappearing, the lung is dilating, and I think it will ultimately be as serviceable as ever.

FIBRO-MYOMATOUS UTERUS WITH CANCEROUS INFILTRATION.

BY WILLIAM H. WATHEN, LOUISVILLE.

This specimen is a fibro-myomatous uterus with cancerous infiltration, removed several weeks ago by vaginal hysterectomy from a woman fifty years of age, of Toledo, Ohio. While she did not know that she had tumors in the uterus, or malignant involvement, she had symptoms that clearly indicated the malignant condition. She had lost much blood, and while fleshy, was very anemic, and the vaginal operation was selected because of the great danger of going above in such a case. Many of these cases, as in this instance, will make an uninterrupted recovery from a vaginal hysterectomy, who might not survive an abdominal operation; but where conditions are different, the supra-pubic operation should always be performed, especially where there is involvement of the para-metria.

There was no involvement outside of the uterus in this case, and I was able to remove all diseased structures. As the woman had never borne a child, to afford sufficient space, it was necessary to make a para-vaginal incision upon the left side extending two-thirds up the vagina and beyond the hymen into the integument. When the hysterectomy was completed, this was sutured by a continuous number two chromic catgut, resulting in perfect union.

I report this case because the association of cancer with myo-fibroma is not frequent. Roger Williams, in 78 autopsies for uterine cancer found five with myoma; and Lebert in 45 cases found six—an unusually large percentage. In the majority of his cases the myoma and carcinoma were independent of one another. It is probable that in most of these cases where the myoma is involved, it is secondary, and caused by the invasion of the cancerous cells spreading rapidly by eratic division. Myoma and fibroma of the uterus are in their origin always myogenic. While it is impossible for carcinoma to develop from muscle or connective tissue, it may, however, possibly develop in the substance of a myoma or fibroma, because of epithelial inclusions or invaginations from the uterine mucosa or from epithelial remnants of the Wolffian or Mullerian ducts. While Sarcoma is a rare disease in the uterus, we may have sarcomatous degeneration of a myoma or fibroma.

Roger Williams in the study of 2,649 consecutive cases of uterine neoplasms, found a record of 481 myomata and only two sarcomata. Fehling in 409 specimens of myomata, found 2.2 per cent. affected with sarcoma. Williams believes that the most frequent variety is myo-sarcoma, in which round and spindle-cells predominate, being mixed in fibrous tissue and non-stryated muscle.

The pathological examination of this uterus shows that it is adeno-carcinoma, and it may be that the malignant disease originated in the upper part of the cervical canal and afterward invaded the tumor structures. The frequency of complications in uterine fibroids justifies us in removing them as soon as marked symptoms develop, or the tumor assumes any considerable size; by so doing our mortality is practically nil.

PATHOLOGICAL EXAMINATION BY EMMETT F. HORNE AND CARL WEIDNER, JR.

Macroscopic Appearance.—Specimen of uterus, 9 cm. in length, weight 150 gm., presenting several nodules, which on section proved to be intramural fibroids. The cervix is funnel shaped, the inner surface being very rough. This roughened condition at the cervix extends to the fundus. Upon section of the myometrium, an area of hemorrhage was observed at the fundus. The largest intramural nodule is about the size of a walnut. Macroscopic diagnosis—carcinoma uteri.

Specimens were obtained for microscopic examination from the cervix, the fundus and from the largest fibroid.

Microscopically, the endometrium showed several areas which were distinctly carcinom-

atous with beginning invasion (direct) of the myometrium. Deeper in the myometrium several lymph channels were observed which were filled with well preserved cancer cells (metastatic invasion).

The fibrous nodule appeared somewhat edematous. Scattered throughout the nodule there are areas of infiltration. Some of these areas contain certain carcinoma cells, others contain cells presenting such a degenerated appearance that they were with difficulty recognized as carcinomatous. Still other areas showed purely a round cell infiltration.

Microscopic Diagnosis.—Adeno-carcinoma arising from cervix uteri. Interstitial fibroma with carcinomatous infiltration.

Meningococcus Sepsis.—Liebermeister has been able to find in the literature only one other case like the one he reports, in which meningococci were cultivated from the blood while yet there did not seem to be any signs of meningitis. The patient in his case presented all the general symptoms which usually accompany meningitis, and was ill for two or three months with hectic, irregular fever, pains in the joints, slight stupor at times, an exanthem and congestion in the lungs—but the spinal fluid was clear and sterile, and there were no symptoms of actual meningitis. It is possible, he adds, that such cases of meningococcus sepsis without meningitis are more numerous than hitherto supposed, and have accepted as “influenza” or even as “articular rheumatism.”

Influence of Colored Light on Course of Inflammation.—Jeziarski reports experimental research, especially on frogs and mice. The results indicate that the influence of blue light resembles that of diffuse daylight, acting mainly on the leucocytes, less on the red corpuscles and the cells of the epidermis. Red light has less action on the leucocytes, but it induces hyperemia, causing better nourishment of tissue, and by promoting the regeneration of the epidermis, protects the inflamed surface and contributes to its smooth healing free from scar formation.

Relapses of Croupous Pneumonia.—Bungart's three patients were convalescing after croupous pneumonia, when suddenly symptoms of a renewed onset of the disease were observed, and they passed through what in every respect seemed to be a repetition of their first attack. The shortest interval after defervescence before the relapse varied from three to twenty-six days in the few such cases on record. The site of the primary lesion was also the seat of the relapse or recurrence; it proved relatively mild in the cases on record.

Circumscribed Spinal Serous Meningitis.—Bruns diagnosed at first caries of the cervical vertebrae in a youth of 16, but later ascribed the paralysis and pains to a tumor, compressing the spinal cord. On removal of the arches of the fourth and fifth cervical vertebrae the cerebrospinal fluid gushed in a strong stream, but nothing pathologic could be found except that the dural sac was exceptionally wide at this point. It thus proved to be a typical case of circumscribed spinal serous meningitis; after evacuation all the symptoms gradually retrogressed so that now, twenty months later, the patient is completely cured.—*Berliner Klinische Wochenschrift.*

Secretion of Pancreatic Fistula.—Glaessner examined the secretions from a traumatic fistula in the pancreas in a girl of 17. For nearly three weeks the secretion was collected every hour and studied from several points of view. The findings showed a number of differences from those of a pancreatic fistula in the dog, especially the lack of the lab ferment, the continuous secretion of pancreatic juice, the lack of correspondence between the nature of the food and the nature of the secretion, and the absence of any apparent influence on the production of pancreatic juice by special elements in the food.

The Finger Superior to Instruments for Exploring.—Hopmann relates a number of instances to show the superiority of the finger for exploring cavities during operations, revealing sequesters, etc., which escape detection by instrumental exploration. Especially in the cavities of the nose and throat, the trained finger allows detection of lesions and aids in their removal by the natural routes much more effectively than instruments. With the latter an external incision may be required to accomplish the same results as can be obtained with the finger exploring the natural openings.

Allowing Patients to Get Up Early After Laparotomies.—Cohn allowed 100 patients to get up in the course of the first week after laparotomy, 13 on the first day, 16 on the second day, 21 on the third, 30 on the fourth, 10 on the fifth, 8 on the sixth and 2 on the seventh day, and has been much pleased with the results. Thrombosis occurred in 3 cases, but soon subsided, and the preceding condition was evidently responsible for it. He thinks it necessary to be cautious in allowing patients to get up very early when they had unduly high temperature or disturbances in circulation in the legs or pelvis, but under other conditions he is confident that it is an important progress in the treatment after laparotomies. The moral effect on the patient has a favorable influence on convalescence.

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EDITORIAL.

WHO SHALL DO THE SIMPLE REFRACTION AMONG OUR PEOPLE?

With the yearly increase in the use of glasses among our American people and the consequent growing demand for individuals capable of selecting proper lenses for each case, it is becoming more evident each year that the medical profession must interest itself in this subject which is strictly a branch of medical therapeutics. The question of educating the doctor while in medical school in the state of preparation is now being agitated with every prospect of its future universal adoption. Dr. Leartus Connor, of Detroit, Mich., who is one of the pioneers in this movement, has done much to bring the question before the medical profession at large by enlisting the co-operation of the Ophthalmological Section of the American Medical Association. At the 1909 session of this body a committee was appointed with Dr. Connor as its chairman to look into the advisability of the study of simple refraction among the general practitioners and the means of promoting such study.

It was the sense of the committee that in order to make such knowledge universal among our doctors, it would have to be made compulsory and that this could be done only through the State Boards of Medical Registration. By requiring a working knowledge of simple refraction of all applicants for license to practice medicine, a consequent demand of the medical schools to have a practical course in refraction as part of their required curriculum would necessarily follow. Believing that the legitimate field of medical practice was having inroads made into by prescribing opticians, the committee has since the 1909 meeting of the A. M. A. presented the question to most of the State Medical Societies for endorsement.

The Kentucky State Medical Association accepted a minority report at its last meeting, encouraging the movement, notwithstanding an unfavorable majority report by three of a committee of four. The writer, who was one of this committee and believed at the time that refraction by the practitioner, untrained in the study of the eye and its physiology, would lead to the promiscuous use of atrophias, which would not be without its dangers. Since then a personal conference with some of the A. M. A. Committee and the hearing of their report has convinced the writer that a need exists which will have to be met by the profession and has impressed him with the importance of the entire movement.

The arguments in favor of training the general practitioner to do simple refraction are many, not the least among them being the strong opposition it is receiving from the opticians. Figures show that there are approximately 180,000,000 human eyes in the United States and only 3,000 specialists, a ratio of 60,000 eyes for each specialist. Recognizing the fact that oculists were too widely scattered and too high priced to meet the demand of the people at large, the opticians have not been slow to take advantage of the prevailing condition. By demonstrating to the Legislature of many of our States that our medical education fails to provide physicians able to determine refractive errors of people's eyes, they have had bills passed in sixteen States, granting opticians special rights to practice that part of ophthalmology, which should rightfully be done by the family physician. A bill of this kind was introduced before the last meeting of our Legislature but failed to pass.

State Boards are beginning to realize that inroads are being made into the domain of legitimate medicine by tradesmen poorly fitted for the work, but working under State protection. In the last year the State Board

of Registration of Michigan has notified all the medical colleges that in the future all applicants for license must be prepared to stand examination on practical refraction and failure to make 50 per cent. of a possible standing, would subject the applicant to a refusal of license. Following Michigan, Utah, Vermont and Nebraska adopted similar measures. The general adoption of this measure and the education of our students to refract would, as Connor puts it, convert an important army composed mostly of officers (ophthalmologists) and few soldiers (family physicians) into an ophthalmic army made up of many regulars and few officers, who could capture the people before the vending opticians could reach them. Working together in this way will have a tendency to relegate the optician to his proper sphere of dispensing glasses and adjusting frames as prescribed by the physician. It will also do away with the necessity of the public applying to traveling opticians for the examination of their eyes, many of whom after selling the glasses—usually at a high price—never return and frequently leave some dissatisfied victim with useless and frequently harmful lenses in each community. Unfortunately many of our physicians not realizing the error of their way not only encourage their patients to patronize these vendors, but consult them themselves.

Aside from the advantage to the patient of having his eyes refracted at home by his family doctor, to whom he could return if not satisfied instead of depending upon a strange and incompetent tradesman, eye disabilities would be more apt to be detected in their incipiency by the practitioner. In intricate cases of refraction or in diseased conditions of the eyes which might exceed the limitations of the family physician, he can co-operate with the specialist or can, if it seems necessary, place the patient under the care of a specialist. Work of this kind adds to the confidence of the family and incidentally adds to the income to the practitioner without making an exorbitant charge for the patient.

It is the belief of the writer that much good will result from the present movement and that State Boards of Medical Registration should be urged to add practical refraction to their list of subjects, following the resolution adopted at the last meeting of the ophthalmological section of the A. M. A. The sooner this becomes universal the sooner will our students qualify for this work and the sooner will we be able to check the inroads of the so-called optometrists or vending opticians into our domain of medicine.

ADOLPH O. PRINGST.

PRELIMINARY PROGRAM.

In this issue we present the preliminary program for the Lexington session of the Association. We feel sure that our readers will be much gratified at the scientific prospects of this meeting. In many respects this is the most interesting and valuable program which has been presented to the profession of Kentucky. A large number of the papers are already in the hands of the Secretary, and it is a matter of some pride to the profession of Kentucky that in the past several years there has not been a failure on the part of any essayist to have his paper ready. In the list of subjects so replete, it is difficult to distinguish any special one, and yet we feel sure that the profession will be especially glad to hear Drs. Wilbur, in regard to vital statistics, Rotch, on the peculiar problems to be met with in the diseases of childhood, Stiles, on hookworm, and Hon. E. J. McDermott, on medical expert testimony. The symposia are all of the greatest practical interest. No physician who cares to keep abreast of the times can afford to miss what promises to be the most valuable session ever held by the Kentucky State Medical Association.

THE REPORT ON NATIONAL VITALITY.

By the kindness of Senator Paynter we are able to send a copy of this report to every member of the Association. Irving Fisher is Professor of Political Economy in Yale, and is recognized as one of the world's foremost men in his field of work. He contracted tuberculosis shortly after his graduation, made a complete recovery under the open air, the modern method of managing this disease, and largely in gratitude for his own complete restoration to health has unselfishly devoted much of his life, means and his wonderful ability to the study and improvement of conditions affecting the living conditions of the people. Properly utilized this report can be made invaluable to any family, and of all people the families of physicians should be able to make a practical application of the information it contains. We ask that it be preserved after careful reading for the use of teachers, lawyers, clergymen and especially for well informed public-spirited women among the clientele of the profession.

EXPERT TESTIMONY.

Kentucky physicians, who remember with pleasure the splendid article on expert testimony by Hon. E. J. McDermott, of Louis-

ville, which was printed in the September 1st last issue of the JOURNAL, and reprinted in many other State journal, will be interested in his report at the recent Middlesborough meeting of the Kentucky Bar Association. In the course of this report Mr. McDermott said, according to the *Evening Post* of July 14th:

"The report which I made at the last meeting on the subject of 'Expert Testimony' was printed in full in the KENTUCKY MEDICAL JOURNAL of September 1, 1909, and the physicians of the State showed, in divers ways, their eagerness to assist in bringing about the reforms urged in that former report."

Attached to the report is a copy of the bill on expert testimony in civil cases, which Mr. McDermott drew last January and presented to the Legislature.

Mr. McDermott continues:

"I presented said bill to the Judiciary Committee of the House and the Senate at the last session of the Legislature, and I made two trips to Frankfort to urge its passage, but other pressing measures of importance and the opposition of some lawyers who seemed to want expert testimony to remain as it is, prevented the passage of said bill or any modification thereof. I submit it now for the consideration of the association so that at the meeting in 1911 the subject may be reconsidered, and this association may then recommend to the next Legislature a bill that may meet the approval of this association and be acceptable to the Legislature.

"Without any specific direction from this association, but in order to carry out its general purpose, I also prepared a bill to amend those portions of the Criminal Code which bear upon the subject of expert testimony and on the plea of insanity."

A copy of this bill also was contained in the report.

"This met the same fate before the Legislature as the other bill," says Mr. McDermott, "though I urged its passage by letter and by personal visits to Frankfort on several occasions, and though the Louisville newspapers, in their editorial and news columns, urgently recommended the passage of both bills.

"Nothing could better illustrate the need of such legislation than the fact that after Warner had been convicted of the murder of Mr. Leeds, of the L. & N. Railroad Company, Warner escaped the day before the time set for his execution by having a jury summoned to pass upon his sanity and by being adjudged of unsound mind. He was sent to the asylum, and in a short time walked away and was not heard of for several

years. Lately he was discovered in the West and was brought back to Kentucky at a great expense to the State, and after he had pleasantly sojourned there for a short time he concluded to walk away again, and did so, and is once more at large, and whether sane or insane, he is a menace to peaceable and innocent men.

"This case shows the need of legislation similar to that outlined in the bills mentioned above.

"In New Jersey we have another illustration in the manner in which the venal experts can be used by rich murderers to save their necks on a flimsy plea of insanity. Charlton murdered his wife in a most brutal manner in Italy, and he escaped to New York and was captured on the steamer. He has been put under the examination of experts, hired by his family, to make out a case of insanity for him, and he may not be punished for his crime. That some reform is imperatively demanded must be clear to every sensible man.

"Though I am by no means inclined to insist upon the particular bill prepared by me, some bill of that sort should be presented again to the Legislature, and should be earnestly and successfully urged by a committee of this association. Something must be done to give better protection to human life and to create greater respect for the law."

The medical profession of the State were represented in the deliberations on the proposed legislation, by Drs. Curran Pope, J. N. McCormack and William Bailey, and are a unit in endorsing the splendid work of the State Bar Association along this line. It is high time that medical expert testimony should be properly and effectively reformed.

ANOTHER MARTYR.

The JOURNAL has recently reviewed the second edition of Dr. Kassabian's "Electro-Therapeutics and Rontgen Rays," and it is with much regret that we announce his death in Philadelphia on July 12th, a martyr to the wonderful work he has done with this new and powerful agency. Dr. Kassabian had been a sufferer from X-ray burns since 1902, and had been operated on time after time. The Doctor was born in Caesarea, Asia Minor, and was 42 years of age.

In speaking of Dr. Kassabian's death a distinguished physician, who is himself an expert in the use of the X-rays, said yesterday:

"Dr. Kassabian was one of the early operators and added much to the science at a time when its dangers were unknown. He worked faithfully at the Medico-Chirurgical Hospital, both night and day, whenever a patient needed his care. During those early

years many of the examinations were made fluoroscopically instead of by plates. This necessitated exposure of the operator during all the time that any of the patients were being examined. In this way he got thousands of times as much exposure as any one patient would get, and by continuing for a long time he did irreparable damage to his skin. During all this time none of the patients to whom he gave his services suffered from the effects of the exposure. To-day absolute precautions to both operator and patient are possible, and the specialists who are thoroughly equipped make these examinations with very short exposures, using seconds, where formerly minutes and even hours were necessary. The rays are absolutely confined to the parts under examination, and I know of no record of injury from the rays during an examination in recent years, when such examination was made by a skilled operator who was thoroughly equipped.

"Dr Kassabian's enthusiasm carried him away and made a martyr of him to this science. He felt deeply the sufferings of those colleagues who have preceded him, and collected the names and histories of these men, intending to publish a memorial to them. This shows clearly that he did not attempt to make a secret of his troubles, nor of the troubles of others."

THE SALE OF OPIUM FOR SMOKING A CRIME.

In this issue of the JOURNAL we are printing an extremely important opinion of the Criminal Division of the Jefferson Circuit Court in the case of the Commonwealth vs. Gatzman, which was an agreed case against the defendant druggist for the sale of opium for smoking purposes. The action was brought by the State Board of Pharmacy. Drs. Mathews, Zimmerman, Virgil Simpson, Boggess and Leavell, testified that the use of opium for smoking, as also its use by those who are habituaries, was an illegitimate use. It will be seen that the opinion of the court fully sustains their testimony, as it should have done. The effort to introduce this promiscuous Chinese habit into the United States should be combated by every means in our power, and we congratulate the State Board of Pharmacy on its prompt and effective interference in this business. Of course the case will be carried to the Court of Appeals, but there can hardly be any question about the opinion of that body.

THE GREAT SPEECH OF SENATOR BOURNE.

No class of citizens of Kentucky have taken a more intelligent interest or have exercised a greater influence in public affairs than has the medical profession. No other class has more to fear from ignorance and corruption in public life. These are fostered by blind submission to party domination and this is intensified by the growing domination of powerful commercial and corporate combinations operating impartially through the leaders of either or both political parties whose submission can be secured by the financial assistance which under existing conditions often seems to offer the only hope of success. Senator Bourne offers a remedy for these evils and gives Oregon, his own State, as a concrete example of how it has been operated. No speech has made a more profound impression in the United States Senate in recent years or is likely to have a more permanent effect upon the country. By the courtesy of the Senator we have been able to send a copy of the speech to every member of the Association and to many leading officials and citizens. Members are asked to read it carefully and then pass it around to their intelligent patrons.

FREE MEDICAL SERVICE TO MINISTERS.

A large part of the shortage in physicians' incomes is accounted for by excessive free service. One part of this free service suggests itself as ripe for readjustment: viz., the custom of free treatment to the ministry and allied callings. The writer gives place to none in sincere respect for the Church of Jesus Christ nor in the regard for its accredited shepherds. He believes that the welfare of the church and fairness to medical men demand that their mutual business relations be readjusted. The custom now in vogue is embarrassing to the best ministers. By the less worthy it is sometimes abused in the requirement of excessive and unreasonable service.

The church can not maintain its dignity without paying its ministers such salaries as will enable them to meet their obligations as self-respecting men. We are not living in the age of free cord-wood and a donation party as part pay to the man of God. For his own sake even more than for the doctor's the minister should pay for medical service. This is not the place to discuss it though the question is tempting; therefore suffice it to say that the church will have taken a great step forward when in this and all other

respects it removes from itself thoroughly the stigma of mendicancy. Until it does many ministers must be classed among the worthy poor.

W. W. A.

AN OLD TIME QUACK.

Dr. W. H. MacCraken sends us the following interesting notice which he has resurrected from a Louisville City Directory printed in 1843. He mails it to the JOURNAL to show that "there were giants in those days," likewise "whales." It is an interesting commentary, and when you stop to think that the daily papers of every State in the Union, except our own, are filled to-day with notices equally fraudulent and bombastic, it is somewhat difficult for us to look back and laugh at our forefathers of '43.

MEDICAL NOTICE.

The undersigned begs leave to inform the whole world that he is now qualified to ameliorate the wretchedness, distress and painful affliction of which the whole human family are more or less suffering. It has been, now is, and hereafter can be proved that my skill in DENTAL SURGERY, and universal cures of all diseases, is unfathomable and infinite.

For proof, I appeal and refer to the most learned, scientific and philosophic of the medical faculty, from Mount Aristook, north, to the Sabine, south, and Nova Scotia, east, to Nootka Sound, west; indiscriminately. It is not merely bragging to say that I can extract teeth without pain, the most decayed, the largest, and more of them from one mouth than any other man under the heaven; and can replace new and sound ones, of eternal durability and youthful appearance, in the least time. Toothless old maids can be armed with retaliating weapons to bite silly and neglected old bachelors and bring them to a sense of their duty and make them fork over.

My cathartic medicinal pills are so certain, speedy and effective, that the most public gentleman will be in want of a private room, to which a railroad and locomotive are indispensibly necessary to facilitate his speedy retreat, and return in prime health to his friends rejoicing.

SAM'L L. BOICOURT.

(Office on Fifth St., No. 6, west side, between Main and the river).

DISHONEST PHARMACEUTISTS.

We wish every reader of this JOURNAL could have read and become interested in the two editorial articles on "Pharmaceutical Manufacturers and the Great American Fraud,"

which appeared in the *Journal of the American Medical Association* of July 2nd. Reputable physicians cannot help feeling interested in the real source of "Danderine," "Cascarets," "Drake's Palmetto Compound," "Nutriola," "Get Well Tablets," "Zymole Trokeys," and the various fraudulent "Castor Oil Pills" and the notorious abortifacient "Pennyroyal Pills." It is singular enough that otherwise reputable pharmacists would be willing to have their names associated with such frauds. It is to be hoped that members of the profession will rebuke the manufacturers of these dopes by patronizing reputable houses which refuse to participate in such ill-gotten profits.

SCIENTIFIC EDITORIALS.

THE TREATMENT OF BREECH PRESENTATIONS.

In the conduct of breech presentations, certain complications must be anticipated in order that prompt relief may be afforded when they occur, for the actual delivery in these cases occupies a very short time and the life of the fetus depends upon prompt assistance when an emergency arises.

The fetus is in danger of asphyxia in even the most normal of breech presentations. A chilling of the trunk and lower extremities in consequence of inadequate protection at the time of birth may reflexly induce premature attempts at respiration and as the head of the fetus is still in the cavity of the uterus, liquor amni may be aspirated into the trachea, dangerous asphyxia following. Or the umbilical cord may be pressed upon the upper part of the child's body or its head, in the descent through the pelvis, the placental circulation being impeded or blocked entirely.

Again with the passage of the trunk and shoulders out of the uterus that organ diminishes so rapidly in size, that the less retractile placenta may be pushed away from the uterine wall with the head either still in the uterus, or in the pelvic canal. Accordingly preparations for the resuscitation of an asphyxiated infant must be made under all circumstances, that is, a foot tub or large dish pan and a pitcher of hot and cold water should be in the room close to the bedside. It is best also to have two artery forceps and a scissors at hand so that no time may be lost in tying the cord, the two artery forceps being quickly snapped on if the child is asphyxiated, and the cord cut between.

The artery forceps offer an additional advantage, in that in the resuscitation of an asphyxiated infant, a little bleeding from

the cord, readily secured by temporarily removing the artery forceps, is often an effective aid.

The sterilized forceps should always be ready in order that they may be quickly applied if there is delay in the delivery of the after coming head. Every practitioner however, should try to become expert in the manual delivery of the head, then he will rarely have to resort to forceps application.

An intelligent assistant should always be at hand, for if there is any hitch whatever, the chances are that the child's life will be lost. Consequently either another physician should be called or the attending nurse should be instructed in following the fundus in the course of the labor and in the proper direction in which pressure is to be made when it comes to the birth of the after coming head.

It is a question whether anything can be gained by conversion into a head presentation if the condition is discovered early in labor. There is no harm in making the attempt, but if the fetus shows a tendency to revert to its former condition, then it is practical to let nature take its course.

A long first stage is expected in a breech presentation, consequently the physician should bear in mind and not let his patient exhaust herself by futile efforts at straining; in fact he should advise her against it for fear of an early rupture of the bag of waters.

The patient should be kept in ignorance of her condition, but the nurse and a member of the family had better be informed.

The bladder and rectum should be emptied at proper interval. As few examinations as possible should be made. The progress of the case can generally be noted by observing the vulvar cleft and the fetal heart sounds will assure the physician of the safe condition of the child.

The patient had better be kept in bed when the breech begins to descend in the pelvis, especially if the bag of waters has not been ruptured, as such an occurrence in the upright position may lead to a dangerous prolapse of the cord.

The patient assumes the ordinary position in bed until the breech appears at the vulva, then she should be brought crosswise of the bed, the legs separated, and a foot resting on a chair at each side of the bed, the buttocks as near the edge as possible. The physician with warmed towels in easy reach occupies a place between the legs of the patient, the previously instructed assistant sits upon the bed with one hand upon the fundus of the uterus. As the breech emerges, it is wrapped in a warm towel and when the

umbilicus is born, a loop of the cord should be drawn down and palpated.

The further conduct of the case now depends upon the pulsations in this cord. If they are good, then there is no need for haste. If not already in such a location, the cord should be placed in the direction of that sacro-iliac synchondrosis, towards which the abdomen of the child points, so that it may be less subject to pressure by the after coming head.

The body of the child should be held up against the symphysis pubis in order to take the weight off of the perineum. No traction should be made upon the body to bring down the shoulders for fear of extending the arms upward and displacing the head, which should now at this stage be kept in firm flexion by continued downward pressure on the fundus by the assistant.

When the shoulders are low enough, then the feet of the child should be grasped with a towel in the left hand, the body held up towards the symphysis, the right hand slipped into the vagina behind the posterior shoulder and the shoulder and arm delivered by carefully slipping the fingers down until the elbow of the fetus is reached, then sweeping its forearm and hand over its abdomen and allowing it to slip out of the vulva.

The anterior shoulder is then generally delivered readily by depressing the body towards the perineum and repeating the manoeuvre upon the anterior shoulder. If any difficulty is experienced, then the anterior shoulder should quickly be directed posteriorly and delivery effected. Such a turning of the body may be safely effected by placing the palm of one hand on the chest and the other on the upper part of the back of the child.

When the shoulders are delivered, then the child's body is made to lie astride of the left arm, its back towards the symphysis pubis. Two fingers of the left hand are inserted into the vagina and placed on the upper lip of the fetus, one on each side of the nose. The right hand grasps the back of the neck and shoulders of the infant. Traction is now made downward until the junction of the neck and occiput rests against the symphysis, then keeping the fingers of the left and right hand firmly in place, the body of the child is carefully directed upward towards the umbilicus of the mother until the head has been turned out of the vulva. The delivery is very easy if properly performed; failure is due to not bringing the head low enough before the body is directed upward. If the middle of the child's neck impinges against the symphysis instead of the firm

bony surface of the base of the occiput, then delivery will be unsuccessful.

When the fingers of the left hand are inserted into the mouth of the child as directed in most text books, then there is great danger of a fracture of the interior maxillary when the operator is inexperienced in delivery.

Whenever complications arise in the delivery of a breech presentation, then active measures should at once be used. If the breech fails to descend after a fair trial in natural delivery, then surgical anesthesia

further conduct of the case as though we were dealing with podalic version should be the rule. The writer would discard all such tentative measures as hooking the finger in the groin, applying the blunt hook or the fillet when the breech fails to descend.

Let a foot be brought down under general anesthesia and then if the further conduct of the case is conducted according to the recognized rules of delivery after a podalic version, then the life of the fetus should not be in any danger and the mother surely is less liable to puerperal infection.

EDWARD SPEIDEL.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM

OF THE

Scientific Sessions of the Fifty-fifth Annual Meeting of the Kentucky State Medical Association
to Be Held at the Young Men's Christian Association Building, Lexington, Tuesday,
Wednesday and Thursday, September 27, 28 and 29, 1910.

PROGRAM

TUESDAY, SEPTEMBER, 27, 1910.

MORNING SESSION—FIRST DAY, 9 A. M.

Call to Order.....By the President, I. A. Shirley, M. D.
Opening Prayer By
Address of Welcome.....By
Response By
Address of the President.—“Preventive Medicine”
By Joseph E. Wells, M. D., Cynthia.
Installation of the President.
Report of the Chairman of the Committee on Arrangements
F. H. Clark, M. D., Lexington.

SCIENTIFIC SESSION—10 O'CLOCK.

I.—SYMPOSIUM—“The Diagnostic Significance of Headache”
1.—“To the Internist”
By J. W. Kincaid, M. D., Catlettsburg.
2.—“To the Surgeon”
By A. D. Willmoth, M. D., Louisville.
3.—“To the Specialist in Eye, Ear, Nose and Throat”
By M. C. Dunn, M. D., Henderson.
II.—“The Present Status of Serum and Vaccine Therapy”
By F. H. Montgomery, M. D., Danville.
III.—“The Physician's Interest in Vital Statistics”
“By Cressy L. Wilbur, M. D., Chief Vital Statistician,
Bureau of the Census, Washington, D. C.
IV.—“Constipation”
By F. P. Thomas, M. D., Hopkinsville.

SPECIAL ORDER AT 12 M.

Address in Surgery—“Abdominal Crises Caused by Pathological Changes in Meckel's Diverticulum Other Than of Strangulation by Band”
By George A. Hendon, M. D., Louisville.

TUESDAY, SEPTEMBER 27, 1910.

AFTERNOON SESSION—FIRST DAY—2 P. M.

I.—“Splenic Anaemia”
By B. E. Giannini, M. D., Coalmont.

II.—SYMPOSIUM: “Diseases of Liver and Bile Passages”
1.—“Diagnosis and Treatment of Cirrhosis”
By G. W. Payne, M. D., Bardwell.
2.—“Diagnosis and Treatment of Cholecystitis”
By Irvin Abell, M. D., Louisville.
3.—“Diagnosis and Treatment of Abscess of the Liver”.....By J. I. Rathburn, M. D., Russell.
4.—“Differential Diagnosis of Gall Stones”
By W. A. Guthrie, M. D., Franklin.
III.—“The Etiology, Diagnosis and Treatment of Pellagra”
By W. F. Stirman, M. D., Owensboro.
IV.—“State Care of the Insane in Kentucky”
By Curran Pope, M. D., Louisville.
V.—“Present Status of Surgery of the Thoracic Cavity—Applied and Experimental”
By W. E. Senour, M. D., Bellevue.
VI.—“Direct Transfusion and Blood Vessel Sutures, With Experimental Demonstration”
By Louis Frank, M. D., Louisville.
VII.—“The Practical Value of Electricity in Diagnosis and Treatment of Disease”
By J. J. Rodman, M. D., Owensboro.

FIRST DAY.

EVENING SESSION—8 P. M.

Annual Oration.....By Frank Billings, M. D., Chicago.
WEDNESDAY, SEPTEMBER 28, 1910.

SECOND DAY—MORNING SESSION—9 O'CLOCK.

GENERAL SURGICAL SECTION.

I.—SYMPOSIUM: “Surgery of the Skull”:
1.—“Indications for and Technique of Decompression”
By E. S. Allen, M. D., Louisville.
2.—“Fracture of the Base”
By D. C. Donan, Jr., M. D., Horse Cave.
3.—“Intracranial Complications of Middle Ear Disease”
By Gaylord C. Hall, M. D., Louisville.
II.—“Pediatrics”
By Thomas Morgan Rotch, M. D., Boston, Mass.
III.—SYMPOSIUM: “Cancer”
1.—“Breast”....By J. T. Reddick, M. D., Paducah.
2.—“Uterus”
By W. H. Wathen, M. D., Louisville.

3.—"Gastro-Intestinal Tract"

By John H. Blackburn, M. D., Bowling Green.

4.—"Genito-Urinary"

By Carl Lewis Wheeler, M. D., Lexington.

IV.—"Inguinal Hernia"

By Benj. F. VanMeter, M. D., Lexington.

SPECIAL ORDER AT 12 M.

Address in Medicine—"Something Old and Something New in Medicine"

By D. O. Hancock, M. D., Henderson.

AFTERNOON SESSION—SECOND DAY—2 P. M.

GENERAL MEDICAL SESSION.

I.—"Diagnosis and Treatment of Enterocolitis"

By E. A. Stevens, M. D., Mayfield.

II.—"Neurasthenia" . . . By W. F. Bogges, M. D., Louisville.

III.—SYMPOSIUM: "Nephritis."

1.—"Diagnosis and Treatment of Acute Nephritis"

By W. R. Thompson, M. D., Mt. Sterling.

2.—"Chronic Nephritis"

By S. L. Beard, M. D., Shelbyville.

3.—"Pyelo-Nephritis"

By O. P. Nuckols, M. D., Pineville.

IV.—"Uncinariasis"

By C. W. Stiles, M. D., United States Public Health and Marine Hospital Service, Washington, D. C.

V.—"Popliteal Aneurism, With Report of Matas' Operation" By John R. Murnan, M. D., Covington.

VI.—"Medical Expert Testimony"

By Hon. Edward J. McDermott, Chairman Committee on Expert Testimony, Kentucky State Bar Association, Louisville.

VII.—"Remote Sequelae in Mistreated Cases of Syphilis"

By J. T. Windell, M. D., Louisville.

VIII.—"A Pharmacological Consideration of the Pituitary Gland, (An Experimental Demonstration)"

By Virgil E. Simpson, M. D., and W. H. MacCraken, M. D., Louisville.

THURSDAY, SEPTEMBER 29, 1910.

MORNING SESSION—THIRD DAY—9 A. M.

I.—SYMPOSIUM: "Diseases of Children"

1.—"The Prophylaxis and Treatment of Acute Gastro-Enteric Infection"

By J. M. Rees, M. D., Cynthiana.

2.—"The Prophylaxis and Treatment of Scarlet Fever"

By J. S. Lock, M. D., Barbourville.

3.—"Typhoid Fever"

By F. D. Cartwright, M. D., Bowling Green.

4.—"The Prophylaxis and Treatment of Measles"

By T. A. Frazer, M. D., Marion.

5.—"The Prophylaxis and Treatment of Diphtheria"

By F. L. Lapsey, M. D., Paris.

6.—"The Prophylaxis and Treatment of Pneumonia"

By J. C. S. Brice, M. D., Flemingsburg.

7.—"Sexual Education"

By H. J. Farbach, M. D., Louisville.

ST. LOUIS SESSION, A. M. A.

The Sixty-first Annual Session of the American Medical Association was held at St. Louis, Mo., June 6-10, 1910. The registration was 4,070, this being the third meeting of the Association in point of size and only surpassed by the Boston session in 1906 and Chicago session in 1908. The weather was practically perfect and the local arrangements admirable.

The House of Delegates met on Monday morning in the auditorium of the St. Louis Medical Society. The President, Dr. W. C. Gorgas, U. S. A., read his address in which the the work of the Association was commended and a number of suggestions made. The report of the General Secretary showed

that during the past year 289 members had died, 1,937 had resigned, 1,031 had been dropped and 95 had been removed from the rolls on account of being reported as "not found," making a total loss of 3,352. During the year 3,593 new members were added, making a membership on May 1, 1910, of 34,176. The application of the Medical Association of the Isthmian Canal Zone for recognition as a constituent association was presented. The death of ex-President Herbert L. Burrell was commented upon. The Secretary presented a tabulation showing the membership in the constituent State associations amounting to 70,146. The history of the secretaryship and its connection with the editorship of the JOURNAL was reviewed. Dr. Simmons presented his resignation as General Secretary and asked that it be accepted. The report was referred to the Reference Committee on Reports of Officers.

The report of the Board of Trustees showed an encouraging progress in all lines of Association work, the work of the Council on Pharmacy and Chemistry, Council on Medical Education, Committee on Medical Legislation, Committee on Nomenclature and Classification of Diseases and the Committee on Ophthalmia Neonatorum, being especially commended. The trustees recommended that the report of the Committee on Organization of a Council on Health and Public Instruction be carefully considered. The addenda to the trustees report included a report from the subscription department showing the average weekly circulation of the JOURNAL for 1909 as 55,361. The treasurer's report showed a surplus in the treasurer's hands on January 1, 1910, of \$163,340.72. The auditor's report showed property to the amount of \$172,081.86 and total assets of \$399,462.16. The report was referred to the Reference Committee on Reports of Officers. The report of the Committee on Medical Legislation was presented by Dr. C. A. L. Reed, of Cincinnati, chairman. The year's work on national and state legislation was reviewed. Dr. Reed presented his resignation as chairman of the committee. The report was referred to the Reference Committee on Legislation and Political Action. Dr. A. D. Bevan, Illinois, presented the report of the Council on Medical Education, stating that during the past year the second tour of inspection of medical schools of the country had been made and submitting as a part of the report a classification of medical schools into three classes: (a) acceptable; (b) needing certain improvements to make them acceptable, and (c) those which would require complete reorganization. The report of the Council was

referred to the Reference Committee on Medical Education.

At the afternoon session, the Board of Public Instruction and the director of the post-graduate work submitted their reports. Dr. F. Park Lewis submitted the report of the Committee on Ophthalmia Neonatorum, reviewing the work of the past year and recommending that its work be enlarged so as to include all preventable causes of blindness, also that renewed efforts be made to have all births reported promptly so as to make possible more thorough work in the prevention of blindness. The report was adopted and the committee continued.

Dr. H. O. Marcy, Massachusetts, submitted the report on Davis Memorial Fund, showing total contributions of \$2,771.34. Dr. Marcy presented his resignation as chairman and Dr. Billings presented his resignation as treasurer of the Davis Memorial Fund. The report was referred to the Board of Trustees. The Committee on Nomenclature and Classification of Diseases reported progress. The Council on Defense of Medical Research reported the publication during the past year of thirteen pamphlets written by experts in the various fields and prepared for general distribution. The Council has also given much material to the daily press. The formation of a society of laymen for the promotion of medical research is being considered.

The reports of the following committees were presented: Patents and Trade-marks, Uniform Regulation of Membership, Elaboration of the Principles of Ethics and the United States Pharmacopeia. The Committee on Anesthesia reported progress. It finds itself as yet unable to submit full and final reports for publication but reaffirms the finding of the Committee in 1908 that for general use ether is to be regarded as the safest anesthetic. Major M. W. Ireland, U. S. A., presented a report from the Committee on Insignia, recommending the adoption of an official button showing the knotted rod and serpent as an insignia of the Association. Dr. Edward Jackson, Colorado, presented a report from the Committee on the Establishment of a Physicians' Sanitarium, recommending the appointment of a committee to draw up a plan for a corporate body to receive and administer funds for the relief of disabled physicians and to establish a sanitarium for physicians suffering from tuberculosis. The report was referred to the Board of Trustees. President Gorgas submitted a report from the Committee on Memorial to Medical Officers of the Civil War, showing that three members had been appointed and that the two remaining positions would be filled by the appointment of one volunteer surgeon

from the Union army and one from the Confederate army. After the presentation of a number of resolutions, which were referred to appropriate committees, the House of Delegates adjourned until Tuesday.

The House met on Tuesday afternoon with the newly installed President, Dr. William H. Welch, in the chair. Dr. Frank B. Wynn, Indiana, presented the report of the committee on Scientific Exhibit, recommending the preparation of cheap, compact and complete exhibits for the education of the public on all the problems of public health and comfort. Dr. Alfred Stengel, Pennsylvania, presented the report of the Committee on Scientific Research, showing that three grants of \$200 each had been made for the current year as follows: Dr. R. M. Pearce, New York, Dr. Gerald B. Webb, Colorado, and Dr. E. C. Rosenau, Chicago. The Committee on Organization of a Council on Health and Public Instruction recommended that the Committees on Organization, Medical Legislation, Public Instruction and Defense of Medical Research be abolished and that a Council of five, to be known as the Council on Health and Public Instruction, be created. This report was referred to the Reference Committee on Amendments to the Constitution and By-laws. The reference Committee on Sections and Section Work reported, recommending the organization of a Section on Genito-Urinary Diseases with the following officers to serve for the coming year: Chairman W. T. Belfield, Chicago; Vice-chairman, James Pederson, New York; Secretary, Hugh Young, Baltimore. The committee recommended that sections on Physical Forces in Medicine and on Hospitals be not established at present. The report was adopted. The Reference Committee on Medical Education endorsed the work of the Council on Medical Education and recommended that the rating and classification of medical schools as determined by the Council should be made public and that the Council be instructed to continue its investigations. The classified list of colleges was presented as a part of the committee's report. (Published elsewhere in this issue).

The Reference Committee on Reports of Officers recommended that the request of Dr. Simmons regarding his resignation as General Secretary be respected and that his resignation be accepted in order that he might devote himself exclusively to the duties of editor of the *Journal of the American Medical Association*. This report was adopted. The Reference Committee on Miscellaneous Business recommended that the reports of the Committees on Pharmacopeia, Nomenclature and Classification of Diseases and Mis-

cellaneous Business be accepted and the committees continued. Dr. J. N. McCormack presented the report of the Committee on Organization, reviewing the work done for a department of public health and presenting the following resolutions:

Resolved, That the President be, and is hereby, authorized to appoint a committee of seven members, which shall be charged with the duty of framing a bill for a national Department of Health, to be presented to the next session of Congress in December, and that this committee shall consider and determine all matters and policies relating to national health legislation, and may invite the co-operation and co-operate with other organizations having the same purpose in view.

Resolved, That the principles of the Owen bill, having for its object the creation of a national Department of health, now pending in the Senate, and similar bills introduced in the House by Representatives Simmons, Cregger and Hanna, be, and are hereby, heartily approved by this Association, and the cordial thanks of the medical profession of the United States, officially represented by it, are hereby tendered to Senator Robert L. Owen, Irving Fisher and their co-workers for their able and unselfish efforts to conserve and promote the most important asset of the nation, the health and lives of its women, its children and its men, properly understood the greatest economic question now confronting our people.

The members of this Association stand for pure food, pure drugs, better doctors, the promotion of cleaner and healthier homes, and cleaner living for individuals, for the state and for the nation. We believe this to be held as equally true by the reputable and informed physicians of all schools or systems of practice.

We welcome the opposition of the venal classes long and profitably engaged in the manufacture of adulterated foods, habit-producing nostrums and other impositions on the people—to the extent of hundreds of millions of dollars annually—and express our sympathy for the well-meaning men and women who have been mislead and worked into hysterics by the monstrously wicked misrepresentations of a corrupt and noisy band of conspirators and who are being used as blind instruments to enable them to contribute to defraud and debauch the American people.

Medical science is advancing, especially on its life-saving side, with a rapidity unknown to any other branch of human knowledge. It is known of all men that our members in every community in the United States are unselfishly working day and night, instruct-

ing the people how to prevent tuberculosis, typhoid fever and the other diseases from which physicians earn their livelihood. Therefore, we welcome and will wear as a badge of honor the slanders of these unholy interests and their hirelings.

These resolutions were later on unanimously adopted by rising vote.

Dr. T. D. Tuttle, Montana, moved the appointment of a committee to prepare suitable resolutions in regard to the death of Dr. Ricketts, after which the House of Delegates adjourned until Wednesday afternoon.

At the Wednesday session, Dr. Rosalie Slaughter Morton, New York, was granted the privilege of the floor to present the report of the splendid activities of the Public Health Education Committee. The Reference Committee on Legislation and Political Action commended the work of the Committee and Bureau of Medical Legislation and recommended that Dr. Reed's resignation be accepted with an expression of appreciation of his untiring, loyal and faithful services. The Reference Committee on Hygiene and Public Health commended the work of the JOURNAL in the direction of a sane Fourth of July. The Reference Committee on Reports of Officers, submitted a supplementary report on Dr. McCormack's work, endorsing his recommendation of the appointment of a special committee of seven charged with the framing of a bill for a National Department of Health to be presented at the next session of Congress. Following the adoption of this report, Dr. Guthrie, Pennsylvania, moved the adoption of the resolutions presented by Dr. McCormack. This motion was unanimously carried. The Committee on Awards recommended that a gold medal be given Dr. Claude A. Smith, Atlanta, Ga., for an exhibit of experimental researches on hookworm disease and that certificates of honor be awarded to the following exhibitors: University of Minnesota, St. Louis University, St. Mary's Hospital, Rochester, Minn., St. Louis City Hospital, Indianapolis Department of Public Health, University of Michigan, Dr. Honwink, St. Louis, Special Committee on Prevention of Blindness, New York, Northwestern University, Chicago, St. Louis Medical History Club. The following resolutions were then presented and adopted regarding the death of Dr. H. T. Ricketts:

WHEREAS, Howard Taylor Ricketts, a member of the American Medical Association, lost his life on May 3, 1910, from typhus fever, contracted while engaged in an investigation of that disease in the City of Mexico; and

WHEREAS, He sacrificed himself in the study of a preventable disease and in the

interest of the health and lives of the human race; and

WHEREAS, His masterly attainments as a scientific worker in this and other fields rendered his life of inestimable worth to the medical profession and the world at large; therefore be it

Resolved, That the American Medical Association, in convention assembled, herewith express its high appreciation of the ideals, the efforts and the achievements of this brilliant investigator, and its deep sorrow at the loss of a most brilliant investigator, and its deep sorrow at the loss of a most valued and cherished member; and

Resolved, That we herewith express our sorrow in the death of Dr. Conneffe, of Ohio, who lost his life as a result of infection with typhus fever while working with Dr. Ricketts in Mexico City; and

Resolved, That these resolutions be spread on the minutes of this Association and published in the JOURNAL.

After the election of a number of associate members and the presentation of miscellaneous resolutions, which were referred to appropriate committees, the House adjourned until Thursday morning.

A special meeting of the House was held Thursday morning to consider the report of the Reference Committee on Amendments to the Constitution and By-laws. A large number of amendments, consisting mainly of verbal modifications, were adopted. The last meeting of the House of Delegates was held on Thursday afternoon, the election of officers being the first order of business. The following officers were elected: President, Dr. John B. Murphy, Chicago; First Vice-President, Dr. E. E. Montgomery, Philadelphia; Second Vice-President, Dr. R. C. Coffey, Portland, Ore.; Third Vice-President, Dr. W. G. Moore, St. Louis, Fourth Vice-President, Dr. H. L. E. Johnson, Washington, D. C.

When nominations for Secretary were called for, Dr. I. C. Chase, Texas, nominated Dr. Simmons for re-election in a speech which invoked repeated rounds of applause. In spite of the fact that his resignation had been presented and accepted it was evident that the House of Delegates was determined to re-elect him. After a large number of delegates from different States had expressed their views, Dr. Simmons was unanimously re-elected. Dr. Frank Billings was nominated for re-election as Treasurer by the Board of Trustees and was elected. The following trustees were then elected to serve until 1913: Dr. W. W. Grant, Denver, Col. (re-elected); Dr. C. E. Cantrell, Greenville, Tex. (re-elected); Dr. Frank J. Lutz, St. Louis. The Presi-

dent appointed the following as members of standing committees, the appointments being confirmed by the House of Delegates:

The Council on Medical Education—Dr. George Dock, St. Louis, to succeed Dr. E. E. Southard, to serve until 1915.

Council on Health and Public Instruction—Dr. H. M. Braeken, Minneapolis, to represent public health; Dr. W. B. Cannon, Boston, to represent defense of medical research; Dr. Henry B. Favill, Chicago, to represent public instruction; Dr. J. N. McCormack, Bowling Green, Ky., to represent organization, and Dr. W. C. Woodward, Washington, D. C., to represent legislation.

The Reference Committee on Sections and Section Work recommended the election to honorary membership of Dr. Alfred Saenger, Hamburg, Germany, Mr. J. Herbert Parsons, F. R. C. S., London, England, and Dr. James H. Hounan, Berlin. The Board of Trustees reported regarding the publication of special journals on surgery and pediatrics and after extended discussion the matter was referred back to the Board with full power to act.

Invitations for 1911 were presented from Los Angeles, Cal., and Buffalo, N. Y., and, on ballot, Los Angeles was chosen, 61 to 58.

The Reference Committee on Hygiene and Public Health presented a report condemning the multiplication of optometry boards and the appointment of non-medical and unqualified persons thereon, recommending the formation of a committee on the prevention of blindness and authorizing the appointment of a committee to co-operate with the Department of Commerce and Labor with a view to establishing proper visual standards and tests for pilots. Following the adoption of resolutions of thanks to the Missouri State Medical Association, the St. Louis Medical Society, Governor Hadley, Dr. Dorsett and his local committee of arrangements, the House of Delegates adjourned sine die.

The attendance of the House of Delegates was large, 133 delegates being registered. An enormous amount of legislative work was done, the bulk of which was transacted in committees. The revision of the constitution and by-laws and the reorganization of the standing committees will greatly strengthen the work of the Association and increase the possibilities for improved work. Taken as a whole, it was one of the most important sessions which the Association has held and the prospects for the coming year are better than ever.

AMERICAN MEDICAL ASSOCIATION.

THE AMERICAN MEDICAL ASSOCIATION REPORT
ON MEDICAL COLLEGES AND MEDICAL EDUCATION.

The following report was made public by the House of Delegates at St. Louis, and its importance can hardly be overestimated.

Following immediately after the publication of the report of the Carnegie Foundation on Medical Colleges of the United States, the Council on Medical Education of the American Medical Association this week publishes the results of its investigation of the same institutions. The American Medical Association has annually published the results of the investigations of medical schools by the Council, but heretofore in general terms. It now issues a definite report, specifically mentioning the colleges by name. The publication of this classification marks the completion of an exhaustive investigation extending over six years and including at least two personal inspections of each medical school. The report appears in *THE JOURNAL* of the American Medical Association for June 18, and the details there published should be read by every one interested in medical education, and is as follows:

REPORT OF THE REFERENCE COMMITTEE ON
MEDICAL EDUCATION.

Your committee believes that we are, at the present moment, at a very important stage in the efforts of the American Medical Association to benefit the community by raising the standards of medical education. For this reason the Committee has given the report of the Council on Medical Education careful and critical study.

We wish to congratulate the Council on the excellent work it has done, and on the great progress in medical education since it began its work, six years ago. This is shown not only in the raising of standards of admission, but in the more systematic and better arrangement of the curriculum, and in improvement in the personnel and methods of teaching, which now approach more nearly to university standards.

When the Council began this work there were 168 medical schools in the United States. Some of the poorest schools have been forced to discontinue. A number have disappeared through the amalgamation of schools, thus making stronger and better schools. The number has now been reduced to 133.

Much of this improvement is due to the methods by which the work of the Council is carried out. With a paid Secretary, devoting his whole time to this work, the Council has been able to establish a bureau of statis-

tics and information on medical education, which is invaluable in the study of these problems.

Furthermore, it has been enabled to undertake a work that was much needed, yet for which there seemed to be no established official agency—namely, the investigation of the actual standing and condition of the various medical schools of the country. This investigation has covered several years. We believe it has been done conscientiously and with thoroughness. The standing of all schools has been made on a uniform basis of marking that is broad and fair. Whatever questions there might be as to the absolute value of the rating given a school, there can be no question that the rating fairly expresses the relative standing of the schools.

After investigation, the Reference Committee is impressed with the leniency with which these ratings have been made. Consequently, we would urge the schools in Class A (rated over 70 per cent.) not to feel that they have reached perfection because they are designated "first class." Class A contains 70 schools.

The schools in Class B were rated at 50 to 70 per cent. They are unsatisfactory, in certain particulars, but capable of improvement to a satisfactory basis. To all these schools information has been sent, showing in what line improvement should take place. There are 29 schools in this class.

Class C comprises the schools falling below a rating of 50 per cent. Some of these schools are regarded as hopeless; others can be made satisfactory only by a thorough reorganization along more advanced lines. The Council will gladly furnish information to these schools as to their shortcomings, if they desire it. Twenty-seven schools belong to Class C.

The schools for colored students have been classified on a still more lenient basis. This is justified, not on the ground of their racial difference, but on account of peculiar educational conditions.

TO PUBLISH RATINGS OF SCHOOLS.

The Council believes that the time has come when the best interests of medical education demand that this rating of schools should be made public. In this opinion the Reference Committee concurs. It seems to be a disagreeable but necessary duty.

We would, therefore, recommend that the House of Delegates authorize the publication of the rating of the schools. We believe that the Association should assume this responsibility.

We would recommend, secondly, that the Council be requested to continue its investigations along these lines in the same conserva-

tive way. We shall thus secure a healthy advance on the part of the worthy schools, yet shall not aim at impossible results.

Thirdly, we would recommend that the Council be encouraged to continue its plans for securing the co-operation of all organizations which are interested in the improvement of medical education, but we would have them continue to recognize that the American Medical Association should establish its own standards, and that these standards can be only such as the present status of education in the United States warrants.

FOR UNIFORM PRACTICE ACTS.

Fourthly, we believe that the House of Delegates should urge the Council to further efforts in the direction of securing more uniform State regulation of the practice of medicine, and in securing reciprocity between States.

Finally, we would endorse a plan that the Council mentioned to your Committee for the establishment of a registry of medical students. Such a plan has been carried out by the General Medical Council of Great Britain, and it should be of great benefit. As it would involve further expense, your Committee recommends that the House of Delegates approve this plan and refer it to the Trustees for action.

H. D. ARNOLD, Massachusetts.

T. D. TUTTLE, Montana.

J. A. CAPPS, Illinois.

JAMES B. BULLITT, Mississippi.

HUBERT WORK, Colorado, Chairman.

As a supplement to its report, the Committee presented the following classification of medical colleges, furnished by the Council on Medical Education:

CLASS A.—ACCEPTABLE MEDICAL COLLEGES.

1. *Giving a complete four-year course:*

ALABAMA

University of Alabama Medical Department.

CALIFORNIA

Leland Stanford Junior University Medical Department (Cooper Medical College).

University of California, Medical Department, San Francisco-Los Angeles.

COLORADO

Denver and Gross College of Medicine.*

University of Colorado, School of Medicine.*

CONNECTICUT

Yale Medical School.

DISTRICT OF COLUMBIA

George Washington University, Department of Medicine.

Georgetown University, School of Medicine.

ILLINOIS

Northwestern University Medical School.

Rush Medical College, University of Chicago.

College of Physicians and Surgeons, Chicago.

Hahnemann Medical College and Hospital, Chicago.

INDIANA

Indiana University School of Medicine.

IOWA

State University of Iowa, College of Medicine.

State University of Iowa, Homeopathic College.

Drake University, College of Medicine.

KANSAS

University of Kansas, School of Medicine.

KENTUCKY

University of Louisville, Medical Department.

LOUISIANA

Tulane University of Louisiana, Medical Department.

MAINE

Medical School of Maine.

MARYLAND

Johns Hopkins University, Medical Department.

University of Maryland, School of Medicine.

College of Physicians and Surgeons, Baltimore.

Baltimore Medical College.

MASSACHUSETTS

Boston University, School of Medicine.

Harvard Medical School.

Tufts College Medical School.

MICHIGAN

University of Michigan, Department of Medicine and Surgery.

University of Michigan, Homeopathic College.

Detroit School of Medicine.

MINNESOTA

University of Minnesota, College of Medicine and Surgery.

MISSOURI

St. Louis University, School of Medicine.

Washington University, Medical Department.

University Medical College, Kansas City.

NEBRASKA

Creighton Medical College.

University of Nebraska, College of Medicine.

NEW HAMPSHIRE

Dartmouth Medical School.

NEW YORK

Albany Medical College.

Columbia University, College of Physicians and Surgeons.

Cornell University Medical College.

Fordham University, School of Medicine.

Long Island College Hospital.

New York Homeopathic Medical College and Hospital.

Syracuse University, Medical Department.
University and Bellevue Hospital Medical College.

University of Buffalo, Medical Department.

OHIO

Ohio-Miami Medical College, Medical Department, University of Cincinnati.

Starling-Ohio Medical College.

Western Reserve University, Medical Department.

OREGON

University of Oregon, Medical Department.

PENNSYLVANIA

Hahnemann Medical College and Hospital, Philadelphia.

Jefferson Medical College.

Medico-Chirurgical College of Philadelphia.

University of Pennsylvania, Medical Department.

Woman's Medical College, College of Pennsylvania.

University of Pittsburg, Medical Department.

TENNESSEE

Vanderbilt University, Medical Department.

TEXAS

University of Texas, Medical Department.

VERMONT

University of Vermont, College of Medicine.

VIRGINIA

Medical College of Virginia.

University College of Medicine.

University of Virginia, Department of Medicine.

2 *Giving a two-year course acceptably:*

MISSISSIPPI

University of Mississippi, Medical Department.

MISSOURI

University of Missouri, Medical Department.

NORTH CAROLINA

University of North Carolina College of Medicine.

Wake Forest College, Medical School.

NORTH DAKOTA

University of North Dakota, College of Medicine.

OKLAHOMA

University of Oklahoma, School of Medicine.

SOUTH DAKOTA

University of South Dakota, College of Medicine.

UTAH

University of Utah, Department of Medicine.

WEST VIRGINIA

West Virginia University, Department of Medicine.

WISCONSIN

University of Wisconsin, College of Medicine.

CLASS B.—MEDICAL COLLEGES NEEDING CERTAIN IMPROVEMENTS TO MAKE THEM ACCEPTABLE.

ALABAMA

Birmingham Medical College.

ARKANSAS

College of Physicians and Surgeons, Little Rock.

University of Arkansas, Medical Department.

CALIFORNIA

College of Physicians and Surgeons, Los Angeles.

Hahnemann Medical College of the Pacific.

Oakland College of Medicine and Surgery.

GEORGIA

Atlanta College of Physicians and Surgeons.

Atlanta School of Medicine.

Medical College of Georgia.

ILLINOIS

American Medical Missionary College.

Chicago College of Medicine and Surgery (Valparaiso University).

Bennett Medical College.*

KANSAS

Kansas Medical College.

MISSOURI

Barnes Medical College.

Kansas City Hahnemann Medical College.

NEW YORK

New York Medical College and Hospital for Women.

OHIO

Cleveland Homeopathic Medical College.

Eclectic Medical Institute.

Toledo University, Medical Department.

*These two colleges have been merged and will constitute the School of Medicine of the University of Colorado.

PENNSYLVANIA

Temple University Medical Department.

SOUTH CAROLINA

Medical College of South Carolina.

TENNESSEE

College of Physicians and Surgeons, Memphis.

University of Nashville.*

University of Tennessee.*

Memphis Medical College.

TEXAS

Baylor University, College of Medicine.

Fort Worth University, Medical Department.

Southwestern University, Medical Department.

WISCONSIN

Marquette University, Department of Medicine.

Wisconsin College of Physicians and Surgeons.

CLASS C.—MEDICAL COLLEGES WHICH WOULD REQUIRE A COMPLETE REORGANIZATION TO MAKE THEM ACCEPTABLE.

CALIFORNIA

California Medical College (Eclectic).

College of Physicians and Surgeons, San Francisco.

GEORGIA

Georgia College of Eclectic Medicine and Surgery.

Hospital Medical College (Eclectic).

ILLINOIS

College of Medicine and Surgery, Physio-Medical.

Hering Medical College.

Jenner Medical College.

National Medical University.

Reliance Medical College.

KENTUCKY

Southwestern Homeopathic Medical College and Hospital.

MARYLAND

Atlantic Medical College.

Maryland Medical College.

MASSACHUSETTS

College of Physician and Surgeons, Boston.

MICHIGAN

Detroit Homeopathic College.

MISSISSIPPI

Mississippi Medical College.

MISSOURI

American Medical College.

Ensworth Medical College.

Hippocratean College of Medicine.

St. Louis College of Physicians and Sur-

geons.

Western Eclectic College of Medicine and Surgery.

NEBRASKA

Lincoln Medical College.

NEW YORK

Eclectic Medical College of the City of New York.

NORTH CAROLINA

North Carolina Medical College.

OHIO

Pulte Medical College.

OREGON

Williamette University, Medical Department.

TENNESSEE

Chattanooga Medical College.

Tennessee Medical College.

MEDICAL SCHOOLS FOR THE COLORED RACE.

CLASS A.

Howard University, Medical Department, Washington, D. C.

Meharry Medical College, Nashville, Tenn.

CLASS B.

Leonard Medical College, Raleigh, N. C.

CLASS C.

Flint Medical College, New Orleans.

Knoxville Medical College, Knoxville, Tenn.

University of West Tennessee, Medical Department, Memphis, Tenn.

Louisville National Medical College, Louisville, Ky.

CANADIAN COLLEGES.

CLASS A.

Manitoba Medical College, Winnipeg.

McGill University, Medical Faculty, Montreal.

Queen's University, Medical Faculty, Kingston, Ontario.

University of Toronto, Medical Faculty, Toronto, Ontario.

CLASS B.

Laval University Medical Faculty, Quebec.

Laval University Medical Faculty, Montreal.

Halifax Medical College, Medical Department of Dalhousie University, Halifax, N. S.

CLASS C.

Western University Medical Department, London, Ontario.

*This school has recently been united with the Illinois Medical College and, it is reported, will be developed as the Medical Department of Loyola University.

*These colleges have been merged and are known as the Medical Department of the Universities of Nashville and Tennessee.

THE SALE OF OPIUM FOR SMOKING A CRIME.

The following opinion of the Criminal Division of the Jefferson Circuit Court, in the case of Commonwealth vs. Gatzman, will be read with much interest:

This case comes out in chief upon defendant's demurrer to the information, motion to quash the warrant issued thereon, and motion to exclude the oral testimony.

The information is prosecuted under Section 2630 of the Kentucky Statutes, and the stipulation filed shows a substantial compliance on the part of the defendant with that section, except with respect to the clause making it the duty of the vendor of poisons by retail to satisfy himself "that such poison is to be used for legitimate purposes."

For the purpose of showing that the sale of opium and its derivatives for smoking purposes, or for use by those addicted to the use of the drug, was not a sale for legitimate purposes, the Commonwealth introduced the testimony of a number of eminent physicians. It is claimed by defendant that this testimony was incompetent, and that the statute itself must define what a sale for "legitimate purposes" is. As the evidence shows, and the fact seems to have been clearly recognized by the Legislature, that opium has both a legitimate and an illegitimate use, the Court can see no reason why the fact as to whether it is sold for legitimate or illegitimate purpose may not be determined upon testimony as any other issue of fact. It would make the statute unduly cumbersome and lessen its efficacy, if the Legislature, to make it operative, were compelled to minutely define each of the varied illegitimate uses to which this drug might be put. The Court is, therefore, of the opinion that the testimony of the physicians was properly admitted.

This testimony conclusively establishes that the use of the drug as provided in both the second and third clauses of the stipulation—that is, both for smoking and its use by one addicted thereto—is an illegitimate, dangerous and highly injurious use. The testimony suggests, with great force, the hopeless and complete demoralization to which the victims of the habit are subjected, it having the effect of not only seriously impairing the physical and mental faculties, but also of thoroughly undermining all sense of moral responsibility. Certainly, there could not come within the police powers of the State any traffic calling more imperatively for regulation by the law-making power.

The constitutionality of the act in question, and, among others, of the particular section now involved, was upheld in the Court of Appeals in the case of Kentucky

Board of Pharmacy vs. Cassidy, etc., 115 Ky. 701. This seems to put the constitutional question beyond the pale of argument, but if it were an original proposition, there would be little room to question its constitutionality. There is a clear and marked distinction between the sales by retail druggists and wholesale or manufacturing druggists, and the prohibition on the part of one who can be vindicated, although the act does not embrace all the others. The clear and laudable purpose of the Legislature was to safeguard against the sale of the drug to those who were the unfortunate victims of its use and who clearly, as a rule, could and would obtain it only through retail stores. In response to the suggestion that wholesale stores might violate the law with impunity because the Legislature failed to define a sale at retail, it is sufficient to say that wholesale and retail sales have a very clear and well-defined meaning, and that if the wholesale dealer should engage in retail sales, he would at once thereby become amenable to the same law, and subject to the same penalties denounced against the retailer.

In the very recent case of Com. vs. Payne Medicine Co., reported in 127 S. W. 761, the Court of Appeals, in passing upon a revenue law alleged to be discriminatory, expressly held that a classification between those selling by retail and wholesale would be upheld as being based "upon substantial and reasonable lines."

Counsel argue at some length against the alleged vagueness of the statute, and the duty of the Court to construe it strictly by reason of its penal nature. The general rule as to strict construction of penal statutes has been greatly relaxed in Kentucky, especially by provisions of Sec. 459 of the Kentucky Statutes. See also Com. vs. Trent, etc., 117 Ky. 44.

However, the statute in question is so clear in defining the various offenses involved, and in the purpose to remedy well-defined abuses, as to permit no difficulty of construction whatever.

As the final ground for avoiding the penalty of the statute, defendant takes refuge under the delusive protection presumed to be afforded by the 14th amendment to the Federal Constitution. The authorities previously cited afford ample sanction for the support of this statute under the State and Federal Constitution, and a discussion at this time of the 14th Amendment would be without profit.

The Court is of opinion that the motion to exclude the evidence, the demurrer and the motion to quash the warrant is issued upon the information, should all be overruled, and that defendant has been guilty of a violation of the statute both in the sale of the drug for

smoking and the sale thereof to those addicted to its use.

Defendant is judged guilty, and ordered to pay a fine of \$51.00. Let exceptions be reserved for defendant, and appeal granted to the Court of Appeals of Kentucky.

ORIGINAL ARTICLES.

PELLAGRA IN PERRYVILLE.

BY HENRY M. PITTMAN, PERRYVILLE.

I was called June 28, 1910, to see Laura S., colored, widow, age 34 years. Found her with a diarrhoea, anorexia, debility and at times delirious, and an eruption on the back of both hands and her face. I send a photograph, which shows the eruption on her face and back of left hand. I obtained the following history. Patient born and lived in



this county, had pneumonia four years ago, was the only serious sickness she has ever had. In May, 1908, she noticed an eruption on face and back of hands; supposed it was caused by poison oak; used some home remedies, and after five or six weeks it got well. Eruption appeared again in May, 1909; used the same remedies; in about two months it got well. She has not been well since the eruption first appeared. Her mother says she has eaten corn bread all her life; she did not like biseuit. Patient has grown worse since July 1, 1910. She refuses to eat anything or to take any medicine for two or three days at a time; does not sleep well; the thickened

skin over the affected parts is coming off. We have had the condition described by Osler, erythema, desiccation and exfoliation of the epidermis, which becomes very rough and dry; in addition we have the digestive troubles, salivation, dyspepsia and diarrhoea. I am sure we have a case of pellagra. Anders says pellagra is a chronic nutritional disturbance due to poisoning from eating contaminated corn meal bread. Osler says it is due to the use of altered maize. Crocker says the causes of pellagra are peasant life, poverty and polenta (a porridge made of maize seasoned with a little salt). Lombroso says the principal factor in the causation of pellagra is undoubtedly some toxic effect on the sympathetic system and the vagus nerve. Patient has been seen by Drs. Hopper, Godby, of Perryville, and Dr. Dunlap, of Danville, and all pronounce it a case of pellagra.

A KENTUCKY "LUNGER'S" IDEA OF THE "BUGS."

BY H. C. CASELDINE, ALBUQUERQUE, N. Mex.

(Resident Physician Sante Fe Hospital).

I.—REMINISCENT.

Strange things and unexpected happen in this world of ours. Some three years ago, had anyone told me that I would contract tuberculosis and have to leave my native State of Kentucky to regain my health in the Southwest, I would have thought him crazy. At that time I was as robust and healthy as any youngster of five and twenty of my acquaintance. From boyhood I had been fond of outdoor sports and work; rowed boats and sawed wood, tramped the fields and mowed the grass with equal zest.

When I entered medical college, however, it was necessary for me to work to meet my expenses. This double drain of classroom work all day and a clerkship at night and on Sundays was too much for even a strong constitution.

Suddenly I was surprised and alarmed by an expectoration of blood. This was repeated in a few months but physical examination revealed nothing abnormal. Microscopical examination of my sputum was not made then. Am sorry now that it was not, for I believe tubercle bacilli would have been found.

I finished my college course and had been practicing my profession about ten months when the next decided change came: pleuritic pneumonia. I had been gradually losing weight, but ascribed it to hard work. As yet I had no cough or expectoration. However, following the pneumonia, slight but increasing hoarseness developed. This was attrib-

uted to a "cold." It is hard for one to believe that he—strong robust *he*—can become infected with tuberculosis. He can see it so much quicker in others than in himself.

I had my throat examined but still nothing decidedly pathological could be found. Shortly, however, a slight cough with scanty expectoration began. With this the truth dawned upon me, after a year of slowly developing symptoms. Please do not say that I was blind—I had consulted three physicians of marked ability during my decline. But the collective signs, so plain in retrospect, came singly and were so faint that we failed to grasp their significance.

Then I began a home treatment in the endeavor to rout "the bugs." I slept on an open porch, ate an abundance of eggs and milk and rested *some*. But I failed to improve. Then I came to Silver City, N. Mex., a moderately advanced case of tuberculosis. I entered a Sanatorium, where practically the same treatment was followed that I had used in Kentucky, with the exception of rest. Instead of an hour or two's rest a day, I now lie down at least six or eight, besides sleeping ten or eleven at night. The atmosphere was pure and dry, and sunshine abundant. I improved steadily for about four months, gaining in both weight and strength. Then business recalled me to Kentucky. There in two and a half months I lost most of my gain.

Once more I turned my face toward the Southwest, bringing with me my wife and baby. After about two weeks I began to regain my strength and weight and to lose my high temperature, and have improved steadily to the present time. The first of the year I felt so strong and good that I resumed the practice of my profession, at the same time taken charge of "Rest-Haven," a Sanatorium located at Silver City, N. Mex., for the outdoor treatment of tuberculosis. My temperature runs normal and I am up to my usual weight when well. Then last but not least, my sputum is free from tubercle bacilli. The Southwest has been good to me in restoring my health and I want to tell other consumptives about it. There's no use for them to stay at home to die. The most of them can come here and get well. It's good news to tell your tubercular patients.

II.—AS TO PROPHYLAXIS.

Much is said and written about the prevention of tuberculosis by isolation and registration of patients, and by fumigation of houses occupied by them. While these means are undoubtedly valuable yet to my mind the intelligent conduct of the patient himself is far more important. In this connection we will consider:

(a) His linen.

(b) His drinking cup.

(c) The disposition of his sputum.

As to linen.—Tubercle bacilli may be wiped from the mouth and nose upon handkerchiefs, towels, napkins and bed clothes. So it is important that the tubercular subject have his linen so marked that it will be known as his individual property, which no one else should handle until it has been sterilized.

Secondly, in the matter of prophylaxis, may be mentioned the use by the consumptive of public drinking cups. Many laymen seem to think that because they cannot see the bacilli on a cup or glass, that it is perfectly safe for the next person to drink from it. Every tubercular person should be supplied with a private cup or glass *for his own use only*. I am glad to note in this connection that at least one State (Kansas), has made it unlawful for a public conveyance to furnish a common drinking cup. In this way each passenger is forced to furnish his own cup or glass. This is a good law and should apply to public buildings, parks, etc. I believe if a similar law were enforced by the other States, it would help to check the "White Plague."

But more important still as a means of prophylaxis, is the *proper disposal of the tubercular sputum*. Some use rags, which are sometimes burned, but often thrown out in the yard. The wind will blow the dried sputum away and so baneful bacilli are scattered for fresh victims to inhale. Others use ordinary cuspidors, even buckets of ashes, and often a newspaper spread on the floor. All these measures are better than expectorating on the ground or floor, if the sputum is burned before it has a chance to contaminate the floor, or to become dried. Otherwise they too become active sources for the spread of the disease—producing seed. The Kentucky Board of Health, has an excellent paper on this subject, which is sent freely to all who ask for it. It is well worth reading and passing on to your patients, for it will do much toward instructing the consumptive how to prevent infection of others with his affliction. The best container for sputum that I have ever seen, is a waterproof, pasteboard cup made by manufacturers of surgical and sick room supplies, and easily obtained by any first class drug store. They fold to fit a neat tin holder, which is covered, thus preventing spread of the bacilli by flies. They are convenient, inexpensive, and safe to use. Another form of sputum cup made of the same material, folds to be carried in the pocket. Still another size is made for floor cuspidors. If tubercular patients were taught and urged to use these cups in their homes and in all public places, I am sure a great stride would be gained in

the prevention of tuberculosis. I urge this as most important, because I have seen so many "Lungers" from all over the country come here to enter Sanatoria, with positively no idea whatever of prophylaxis. Promiscuous spitting is a filthy habit in a well person, but in a tubercular subject it is criminal.

Of course the question of isolation of the patient, prevention of kissing by him, registration and fumigation of houses and such measures are of much benefit, but I believe that much more can be accomplished toward stamping out this dread disease by the stringent urging the use of *individual linen, individual drinking cups, and most necessary of all burnable sputum cups.*

Should an accident occur, and the patient get sputum upon the clothing, ground or floor, it should be promptly disinfected with formaldehyde or carbolic acid or some such agent. I prefer formaldehyde, as it is both cheap and effective. "In the proportion of 1:15,000 it destroys most living germs."—Bardley.

III.—TREATMENT AT HOME.

The news that one is afflicted with tuberculosis comes as a sad blow to most patients. Usually with little idea of the disease, their first thought is that they will soon die. They may be rebellious and doubt the diagnosis, (especially if early), until the disease makes further inroad into their strength. Then very likely they refuse to go to a mild climate, beginning a so-called "home treatment," which if strictly followed as directed by a physician conversant with tuberculosis, will undoubtedly do good. But this treatment must extend over a long period, he does not have the stimulation of comrades in a sanatorium, and seven times out of ten the patient gets lax, the disease steadily tightens its grasp upon him, and then, after much valuable time has been lost, often as a last resort, he goes to the Southwest, a far advanced case of tuberculosis, with his chance of living reduced to a minimum. While had he gone from home when the diagnosis was first made, his chance for a cure would have been greatly enhanced, and probably infection of some of his family or friends, prevented.

We seldom get an incipient case, the majority being of the second and third classes, (moderately or far advanced). And yet with such adverse cases, our percentage of arrests will outstrip that of Northern, Eastern or Southern sections, where incipient and moderately advanced cases predominate, and *should* raise the percentage of cures if we accept the theory advanced by many "that climate plays no role in the treatment of tuberculosis." I am not dealing with theories,

but with plain facts which are borne out by the histories of hundreds of patients who have come to this section for relief from the "White Plague." Send your tubercular patients to the great Southwest; send them early and so give them the best chance possible to regain their health. And I might add, be on the lookout for tuberculosis—suspect it in those cases of "just a little cold which hangs on," in patients who recuperate slowly from pneumonia and pleurisy, in cases of "dry, hacking cough" which persists. Tuberculosis is so all prevalent that we should suspect and examine for it and not wait for its ugly truth to be forced into our diagnosis.

Personally, I believe that the section around Silver City, N. Mex., has the best year round climate to be found. Fort Bayard, the Government Sanatorium for tubercular soldiers, is only nine miles from this city. This speaks well for this section because, when the hospital was contemplated of the many available locations inspected, this one spot far outranked all others. In the summer, our days are warm and pleasant, the nights cool and comfortable. In winter the days are mild and sunshiny; the nights crisp and invigorating. The atmosphere is mountainous, both dry and pure. Truly "A Silver City with a golden climate," allowing the patient to *sleep outdoors in comfort the year round.* Who could successfully say that constant rest, nourishing food and such an outdoor life will not give the tubercular subject the best chance possible to regain his health? Yet the work of stamping out tuberculosis far outranks any one man, any one section. Colorado, West Texas, Arizona, parts of California, as well as the whole of New Mexico are beneficial to the phthisical. But if your patient *cannot* be sent to the Southwest, then put him on *strict*, proper, prophylactic treatment or management and keep him to it. See that he follows your directions implicitly and be sure that *they* are such as advocated by those members of the profession meeting with the most success in the treatment of the disease. Let us work together, practitioners of all sections, with all the energy and intelligence to cure the existent tuberculosis and to prevent its continuance. Our very knowledge of medicine makes it our duty to prevent as well as to cure.

In favor of the climatic conditions of the Southwest may be stated the fact that the natives (Mexicans) and pioneers seldom if ever have tuberculosis. And cases which have become arrests or cures live out their natural lives, following their usual avocations, and happy that they have escaped the grip of the "White Plague."

Just a word about patients leaving this climate after making an arrest or cure of their disease. Theoretically one should be able to live where he desires, or in any climate, but experience has shown that relapse is very apt to follow removal to a cold or changeable climate. Secondary infections arise and quickly result in a re-infection of tuberculosis. Often also to these secondary infections are due the sudden appearance of acute symptoms attributed to the tubercular process. Lagrippe is one of the most frequent of these complications.

Even a skeptic on climatic benefit is bound to admit that that climate is best where the patient "feels well, eats well, sleeps well, and gains flesh and strength." (DeLafield). Both as to the percentage of cures in Silver City, and as to obtaining the above named desiderata, we most heartily invite investigation of statistics. For the tubercular subject to make the most improvement, the following climatic conditions are requisite: (1) Purity of air. (2) Equability. (3) Abundant sunshine. (4) Dryness. (5) Altitude (Anders). Physicians who wish to cure tuberculosis "think on these things."

IV.—AS TO TREATMENT.

Instead of the word "treatment," I prefer to say "management" when referring to a case of tuberculosis. There is no specific treatment for the disease, as we all know. Medication is of course symptomatic, while the general management includes attention to temperature, food and digestion, rest and proper surroundings.

I realize that the idea of rest in tuberculosis is thought by many practitioners to be overdone—that too much stress is laid on the subject. But I feel sure that a fair test will convince many of its value. Try it, doctors, don't just doubt it—put the rest cure to a test.

I recently had a young man under my care—age 24, moderately advanced case, both pulmonary and laryngeal involvement, came to me January 27, 1910. Temperature, A. M., 96 1-5; P. M., 100 2-5. Besides attention to diet, etc., he was directed to lie on a cot outdoors preferably in the sunshine, from breakfast till dinner, from dinner till supper and in bed at night ten hours. He was allowed to dress and walk to meals. In one month's time, besides five or 6 pounds gain in weight, and a proportionate gain in strength, his temperature was: A. M., 97 3-5; P. M., 98 3-5, a daily range of only one degree as against four and one-fifth degrees thirty days previously. I admit that this was rapid improvement, and I do not expect to prove my point by this one case. I can cite *many* others that are similar. So it be-

hooves you who really want to benefit your tubercular cases, not just to scoff at the rest treatment but try it. Don't wait till the patient's temperature is high before making him lie down. Continual rest is indicated so long as the temperature is above normal. Even one degree of fever indicates that the tubercular process is active, and the one known way to combat the infection is to build up body resistance. Exercise uses up muscular tissue and energy which should go toward building up the body. Therefore as a rule, the more exercise a tubercular subject takes while his temperature is above normal, the less vitality has he left with which to combat his infection.

As to food I would say that I believe in no fixed diet for the consumptive. Nourishing food, yes, and an abundance of it, but be sure that the menu is frequently changed. The appetite of a "Lunger" is more than apt to be fickle and needs to be tempted with pleasing dishes changed so often that the patient does not tire of them. Beef and potatoes are undoubtedly excellent as flesh producers, but served three times a day would quickly satiate, and spoil one's desire for all food. I recommend bacon as a good change from beef, also mutton, chicken, and even well cooked pork. Creamed drier beef makes an appetizing dish. My idea is that though the food sometimes may not be so nourishing as beef and potatoes, it is better to keep the patient with a sharp appetite, anticipating with pleasure every meal than to keep him on a fixed diet and so make him loath the thought of all food. Fresh eggs (not cold storage product) taken at meal time or between meals, raw, give splendid results as flesh and strength builders. From six to ten a day should be taken. The number should depend upon the amount of other food eaten. A flavor of lemon, vinegar, or nutmeg often will make them palatable. But caution must be used in administering milk soon after the acids. A good way to give the egg is to beat it up in a glass of fresh milk and add a dash of salt or flavor to suit. Fresh milk, (unskimmed) should be taken freely. Idiosyncrasy will occasionally prevent its use, and in such cases it should not be forced but other food substituted for it. I find that most patients can take from three to five pints a day over long periods and show no biliousness. The milk should be of rich quality and certainly free from the suspicion of disease. "A tablespoonful of malted milk, stirred into a glass of fresh milk will render it more easily digested as well as more nourishing."—W. H. Coffman.

I think I have yet to see a tubercular patient with a clean tongue. Almost invariably it is covered by a heavy slime, grayish to

brown in color. Likewise nearly all "Lungers" have more or less trouble with their digestion. Usually the symptoms are vague and hard to reach. Often an acidulated solution of pepsin will increase the patient's appetite as well as improve his digestion. In some of these "stomach cases" especially if accompanied by nausea, I have found the following prescription to give relief. The quantities, especially of the cathartics, must be altered to suit individual cases.

Rx.

Sodii Sulphatis dr. I.
Sodii Phos. dr. I.
Cerii Oxal. gr. X.
Bismuth S. N. dr. III.
Magnes. Calc. Ust. dr. III.
Met ft. pulvis No. 1.

Sig. Teaspoonful in hot water morning and night.

Among other medicinal agents of value in the care of the tuberculous are the following: formaldehyde, tar water with soda, haematoxylon, adrenaphrin or adrenalin, tuberculin, mercury, calcium sulphide, guaiacol, and turpentine.

In tubercular larynx, whether ulcerated or only infiltrated, weak formaldehyde solution, (3 to 8 drops per oz. I water) gives benefit. It is not only antiseptic and healing to the diseased tissue, but also increases the resistance of the wall. Not every atomizer is suited to spray the larynx either. One with a hooked tip (the so-called post-natal) is by far the best to throw the spray down the larynx where it is needed.

Tar water with soda as a spray is excellent to cleanse the throat and vocal cords of mucus and is also healing and soothing to the inflamed membranes.

In tubercular intestine, the diarrhea is best controlled by some astringent, haematoxylon being a good example. This gives better results than opium and does not produce the stupor characteristic of the narcotic.

However, in haemorrhage, opium in some form is desirable to keep the patient absolutely quiet and free from worry. Heroin muriate is quite effective for this purpose. Other agents for the control of haemorrhage are: ice in mouth, on the chest, and in the arm pits, inhalation of amyl nitrate, nitroglycerine, nitroglycerine with morphine, adrenaphrin or adrenalin, to dilate the capillaries, and some form of calcium (chloride good, also sulphide) to coagulate the blood.

Tuberculin I value only as a diagnostic agent. I have seen very little good follow its use and on the contrary considerable harm. I realize that many specialists of reputation still administer it, but personally, I do not advise its use.

In tubercular nose, I have found benefit from the daily application of a 25% solution of argyrol. Also use a spray three or four times daily, of alkaline antiseptic tablets in aqueous solution, as a cleansing agent. If a deodorant is needed I add potassium permanganate to this solution.

For the slight ulceration to the external area, often found in consumptives who lie on one side a great deal, the 25% argyrol solution gives relief temporarily, though nothing except improved health seems to do permanent good.

In quite a number of cases, I have used a remedy little spoken of in connection with tuberculosis, yet in my hands it has given pleasing results. I had read of its good effects in measles, scarlet fever, and in other systemic infections. The agent is calcium sulphide. I then tried it on myself for tuberculosis, with such good results that I decided to administer it to a few cases I then had under my care. Nothing startling will follow the use of calcium sulphide, yet I believe from observation, that it does modify the course of tuberculosis. The temperature will be found to register lower, and will be easier to control. Also the sputum will be rendered less purulent (and I think less virulent). It has an expectorant action that gives relief to patients having tenacious sputum.

Calcium is said to be one of the salts in which the "Lunger" is deficient. To supply this then should ameliorate the condition. At any rate I believe that it acts as an internal antiseptic, rendering the body a less suitable habitat for bacilli. I administer it in dosage of $\frac{1}{2}$ to 2 grains, in gelatine coated pills, three times a day, after meals carrying the patient to saturation if possible, then suspending treatment for a week, and then resuming with a larger dose. I say "to saturation if possible" advisedly, as I have never seen a tubercular patient reach the point of saturation from calcium sulphide. A non-tubercular patient on much smaller dosage, will usually quickly complain of the odor of his perspiration and body, but not so the "Lunger." He can stand large and increasing dosage under which the severity of his symptoms will become modified. I believe that calcium sulphide will become more generally used in tuberculosis, not vaunted as a "cure" but simply as a valuable assistant to nature's method.

Quite a few practitioners have advocated mercury for treating tuberculosis, some claiming marvelous results. Dr. Barton Wright, U. S. Marine Hospital, reports a large number of cases of simple tuberculosis (non-syphilitic) in which the hypodermic injection of mercury succinimidum was the

treatment used. His reports are very interesting, his results being astonishingly good. But I have seen no one else use the treatment and report favorably on it. The theory is good, viz., that mercury is one of our best external antiseptics, surely it would poison the "bugs" internally. But the body salts, albumins and chemical agents evidently so change the mercury that it becomes innocuous to the bacilli. However, administered in simple tuberculosis, I have so often seen it followed by a reaction that I consider it only as a remedy that might have been.

In closing this article I want to say that I am striving to do all in my power toward the prevention and eradication of this "Great White Plague." Perhaps to some my ideas may seem radical, but believe me, they are the result of experience both to myself and of co-laborers in the Southwest, setting forth such management as would give the best results in the treatment of this dread disease.

My interest in the eradication of tuberculosis is intensified for having myself felt the fangs of the monster. I hope and every one who reads this article will add his strength and intelligence to the army already fighting this great evil.

THE MANAGEMENT OF SOME COMMUNICABLE DISEASES.*

BY R. L. FORD, LIVERMORE.

There are some hereditary diseases and some that are not hereditary, that can be brought under the same general management for their control: notably tuberculosis, syphilis, insanity, cancer, etc. It is a well known fact that some diseases are on the increase, for instance, insanity, cancer, and tuberculosis, notwithstanding the effort that has been made to check them. Insanity is largely on the increase, the increase over and above the increase of population in the last 50 years in the State of Kentucky has been three hundred per cent.

The increase of tuberculosis has been cut down considerable in the last few years, but there has never been anything done to check the ravage of insanity. When we consider that tuberculosis alone is the cause of twenty-five per cent. of all deaths, it is high time we were doing more to check it. If it wasn't that a great per cent. of the human family are immune it would depopulate the globe in a hundred years.

Insanity is increasing to such an alarming extent, with all the effort to stop its increase up to the present time, that it seems high time we were doing something more to stop

this, the most miserable condition to which the human family is heir. Those two diseases (insanity and tuberculosis), to say nothing of tertiary syphilis, cancer, epilepsy, and some other diseases, is a great burden to the country, to say nothing of the misery and suffering. I have been taking observation and have done some experimenting along this line for several years and have come to the conclusion that to stop the reproduction of this class of sufferers will do more to check those diseases than everything else combined. To segregate would only be to pile up the burden on the State and to talk about preventing marriage would be unjust besides it would increase the illegitimate children born. So the most rational and the easiest thing to put into practice will be the sterilizing of the male by vasectomy. This is an office operation, absolutely safe, can be done under a local anesthetic. An operation which but few will object to, inasmuch as it does not destroy a single function; erection is perfect, the naked eye appearance of the semen is unchanged; the voluptuous sensation in coitus is unimpaired. When the facts just mentioned are generally understood, the greatest problem will be solved, people will not only submit willingly, but will demand it. You may hear some objection from a moral or a religious standpoint. It is true God said multiply and replenish the earth, but I don't believe the Creator intended that diseased and defective children and more than can be cared for should be born. I don't think it is the desire of any person to bring a child into existence to die in infancy or to live a long life of misery, but the gratification of the sexual appetite for the time being seems to overshadow almost every human thought. It would require some thought to work out the details to tell where the remedy should be applied and where not. I will give an illustration. We will take a man and a woman either of which is in the advanced stages of consumption. It is reasonable that their offspring would be weakly constituted, besides when it was born it would be in the midst of a hot bed of tubercular bacilli, and unless it was removed at once would be sure to contract the disease and die before it was a year old. And if it happened to be the mother who had the disease, the state of pregnancy would so undermine her strength that she would not live long. Now as to insanity, no couple should get married and have children where there was a case of insanity in either family for three or four generations. I believe sterilization is a solution of the problem with reference to the diseases under consideration as well as crime confirmed inebriates, and I be-

*Read before the McLean County Medical Society.

lieve it should be the privilege of any man to have the operation done on him if he sees fit, for it is well known that it is the most ignorant and poor who have the largest families. It requires no study to see that at the present ratio the tendency is toward degeneration, having absolute control over the number of children born and by whom is a pivot around which the prosperity and happiness of the future generations revolve, and vasectomy is the most rational means at our command that is just and humane by which this can be affected. I have been taking observation and have done some operations since 1898. I am as far as I know the first to advocate, and did the first operation for the sole purpose of studying the effect of vasectomy, therefore I know (not boastingly) more about this subject than any other living man. Notwithstanding this subject is attracting worldwide attention, there are few who have the courage to test it on their own person as I have done. I hope we can induce our Legislature to follow Indiana and Oregon, and pass a law sterilizing all criminals, for I am convinced that a disposition to crime is hereditary.

Show me a stock raiser who would think of breeding a diseased animal, while the human family perfectly ignore this point. If we expect to still maintain the present high standard of human health and happiness, we will have to change our present carelessness in the matter of reproducing.

I have done this operation in two different ways: one by simply cutting down on the vas under local anesthetic and tying off the vas with catgut, dividing it and dropping it back, closing the skin wound. Then I have injected pure carbolic acid, 4 or 5 m. in the vas with a hypodermic syringe. I have not done a sufficient number of operations by this method to tell whether it is successful in all cases or not, but it was in all the cases I have tried. If it proved to be successful in most cases this would be the ideal operation, for it only causes a slight swelling and soreness, but no real pain, and passes off in a few days, not stopping a man from his work. I reiterate that this operation should have no more mortality than extracting a tooth.

INFANT FOODS AND INFANT FEEDING.

By W. A. McKENNEY, FALMOUTH.

The first question that presents itself, is what is a food. A food is material taken into the body to replenish the tissues, which have been used up by the vital processes, and in the infant to supply material for the growth and development of new tissues. According to the natural order of things, the

normal healthy mother's milk is the perfect infant food. It contains all the elements necessary to repair tissue waste, to supply new material for growth and maintain body heat, and constitute a perfect aliment. But if for any reason the child is deprived of the mother's milk it then becomes our duty to substitute a food as near like the mother's milk as possible. And the next and most convenient is cow's milk, while it is not of exactly the same composition as the human milk, it is capable of being modified so as to be nearly like it. According to Leeds, the chemical composition of human milk is:

	Human.	Cow's.
Fat	4.13	3.75
Milk sugar (lactose)	7.00	4.42
Albuminoids	2.00	3.76
Salts	0.20	0.68
Water	86.67	87.39

Mother's milk is persistently alkaline, while cow's milk is acid. Mother's milk is thin, watery, bluish in color, while cow's milk is whiter in color and more opaque. Specific gravity of human milk, 10.31; cow's 10.29. The mother's milk contains fats, nitrogenous material, carbohydrates, salts and water. Cow's milk contains more nitrogenous material, less fat and much less sugar than human milk.

CHEMICAL ANALYSIS.

The sugar of human milk and cow's milk are chemically identical. The fats are similar. There are important differences in the quality as well as the quantity of the nitrogenous material. In both fluids it is complex, being made up of casein, lactalbumin and peptones. The peptones are only present in small quantities. The casein of cow's milk is readily precipitated by dilute acid and is thrown down in large firm masses. That of the mother's milk requires more acid and is precipitated in fine soft particles, which are dissolved by an excess of acid. After the separation of the casein the lactalbumin is left in solution in the whey. The proportion of casein and lactalbumin have been determined with sufficient accuracy to point out the differences in the two secretions. The fraction of the total albuminoids in cow's milk coagulable by acids (casein) is far greater (perhaps four times) than the non-coagulable part (lactalbumin).

In woman's milk on the contrary the reverse is true, and the non-coagulable parts much exceeds (more than twice) the coagulable portion. Taking weight for weight of each secretion, the coagulation of human milk is only one-fifth that of cow's milk.

The microscope shows some difference also. The fat globules of cow's milk are rolled together in heaps and clumps, while in

the human milk there are no clumps and a regularly divided field of fat globules. The fat globules are surrounded by a zone of clearer substance called pediglobular substance, which in the cow's milk has a stickiness about it that is absent in the human's milk. The mother's milk is much more elastic than the cow's. As to the artificial foods, there are any number of them on the market, and according to the printed circulars accompanying they attempt to supply the various properties necessary to a perfect food. About all the virtue some of them have is the addition of cow's milk. They are quite extensively advertised and carry testimonials from various people, which smack very much of the patent medicine fake, and a conscientious physician would no more recommend these prepared stuffs to raise a baby on, than they would recommend a patent medicine for their patients. I have known some physicians for the sake of conserving their grey matter to fall into the habit of recommending "baby foods," with usually bad results. I have never seen very many babies grow and develop where they were raised on so-called baby foods. I make this appeal to you, wherever you are called upon to recommend a "baby food" or a substitute for the mother's milk, for any cause, study the conditions, and instruct the parents, how, when and what to feed the baby, and watch with an eagle's eye the growth and its development. Remembering that an infant is not nourished simply by the food it swallows, but by the portion that it digests and assimilates. The best diet is one adapted to age and digestive power.

INFANT FEEDING.

The most serious question that confronts us is what to feed a new born babe that is unable to get the mother's milk. If it has been able to get the mother's milk for only a few days, it will be that much better off. For a normal healthy infant there is a wide tolerance for different food mixtures, and for varying amounts and strengths of different food elements. But if the child is below par congenitally or from unwise feeding, or has had some sickness, it may have a very narrow tolerance for food. A food of a certain quantity and composition that yesterday was adapted to a healthy infant, today may act as so much poison to a child that has had an acute digestion or nutritional disturbance. At birth a dilution of one part of cow's milk with two of water, with the addition of a small amount of milk sugar, say $\frac{1}{4}$ to $\frac{1}{2}$ ounce in the 24 hours, is about the usual proportion. This dilution can be strengthened gradually till the child takes equal parts of milk and water with $\frac{1}{2}$ ounce

to one ounce of milk sugar daily during the second and third months. The proportion of milk is gradually increased, that of the water and sugar diminished till toward the end of the first year the child is on the whole milk. The total for the 24 hours should rarely exceed one quart. After the fifth or sixth month the ability to digest starch is so well established that we may substitute one of the cereal waters or gruels to dilute the milk with. In the latter months of the first year additional food is given in form of broths, strained vegetable soups, beef juice, fruit juice, zwiwock, cracker and cereals.

FREQUENCY OF FEEDING.

A baby should not be fed more than 5 or six times in the 24 hours, and toward the end of the first year it should not be fed more than four times. A bottle fed infant should not be fed as often as one that nurses its mother. The casein in cow's milk is harder to digest than is the mother's. It takes at least three hours to digest the cow's milk, and the stomach should be empty before the next meal. The empty stomach is supposed to be in an alkaline phase, and when food is introduced the secretions of hydrochloric acid and rennet are supposed to be gradually thrown out, and the digestive process to become more and more active, but if food is introduced before the stomach has emptied itself, and there is naturally a high acidity there is quicker coagulation, with larger and harder curds. The period of digestion is continuous, the stomach becomes taxed and a vicious cycle is established, which leads to irritation, and if continued to inflammation and distress.

QUANTITY OF FOOD.

The question of quantity is one that is hard to solve as what one will thrive on another will starve. We have certain numerical standards, as to the amount of food a normal infant should get. These figures are the result of observations on a large number of babies, both breast and bottle fed. They should be considered rather as a check to overfeeding than as a positive guide. If simple milk dilutions with the addition of carbohydrates are used, the simplest one would be the one that would tell us how much milk per pound a baby should get. It is better to vary the amount of milk according to weights rather than the age of the child. After the fifth or sixth months a child weighing from 13 to 15 pounds should have one-tenth of its body weight of undiluted milk. This would be equivalent of about $1\frac{1}{2}$ ounces to the pound. This would be too high when you add sugar or gruels, as you would get considerable foods outside of the

milk in the form of sugar or starch. An ounce to the pound has been found to be the minimum on which a healthy baby will thrive. One and one-fourth ounces is more the usual amount it will take, while $1\frac{1}{2}$ ounce will soon give evidence of overfeeding. This is a very useful guide for a healthy baby, but would be of not much use for a sick one, as the limit of tolerance would soon be reached, and we would not want to give only what would be digested and assimilated. The Germans have worked out the calorimetric standard of feeding. This is expressed by giving certain substances a value in heat units. A caloric is considered to represent the heat that is required to raise one kilogram of water from 0 to 10 per cent. And they have accurately determined the numbers of calories for kilogram of body weight used daily by healthy babies; this is called the "energy quotient." The process to determine the "energy quotient" is a very simple one; only a few figures to be remembered that represent the caloric value of one ounce of each different food used in infant feeding. Thus cream, 16%, has a caloric value of 54 to the ounce, milk 21, fat free milk 10, sugar 120, flour or cereal 100. To calculate the energy quotient it is only necessary to multiply the number of oz of each ingredient of the food mixt by its caloric value, to add products and to divide the sum by the number of kilograms the body weighs; if by pounds multiply this product by 2.

THE PERCENTAGE METHOD.

The percentage method is based on the idea that the proteid of cow's milk is the one food element that is difficult to digest and on the other hand that the fat is harmless, and that in feeding we should give the proper per cent. of each food element without regard to the quantity of the food. It has not been clearly proven that the proteid causes any great harm. And on the other hand the fat is sometimes the cause of disturbance in milk overfeeding, and it always plays a leading role in all the intoxications. One can as easily overfeed a baby on a large amount of low percentage of food elements as quick as he could with a smaller amount of a stronger food. In other words the percentage of food elements has no bearing on overfeeding or underfeeding. In one of our daily papers from one of our large cities, I saw the statement that 16 out of every 100 babies died before they were 1 year old, 23 before they were 5 years old, and that this waste was largely due to improper care and feeding, and that at least one-third of these babies can be saved. So then let's be up and doing with a heart for any fate, still achieving, still persevering, learn to labor and to wait.

DIAGNOSTIC VALUE OF ABDOMINAL PAINS.*

By A. L. BECKETT, FOSTER.

Pain in region of the body is the conscious expression of nerve injury either macroscopic or microscopic. Pain is at the same time both a subjective and objective symptom. It is subjective in that we depend largely upon the patient's statements as to its location, character, severity and duration. The value of the patient's statements depends on his intelligence and disposition to either minimize or exaggerate conditions. There is no doubt that the susceptibility to, or tolerance for pain varies greatly in different individuals.

Fortunately for the diagnostician, pain is expressed objectively. The facial expression, character of breathing, position of body and tensivity or rigidity of the muscles, all contain valuable information to the examiner.

Pain is the most valuable, and at times the most misleading symptom the patient may present. For all pain, no matter how trivial or how severe, there is always a cause, and we should be careful not to overestimate nor underestimate the importance of pain. Though the cause may be obscure and difficult to determine, we should never relinquish our search for it until found. By following this plan I think we will be amply repaid with some surprising revelations, which will be of great value to ourselves and patients. It is not enough for the examiner to determine whether a case is operative or non-operative or whether it can be reached by palliative treatment, but he should use every available means to ascertain the true condition before the abdomen is opened or before a treatment is outlined.

Look for the cause at once and do not be too quick in the administration of opiates, as they have a tendency to mask the symptoms. Irreparable damage has been done and lives lost by masking the symptoms behind that most valuable and most abused drug—morphine. There is perhaps, no region in the body which presents so many varieties of pain as the abdomen. This is due to the mere or less complex arrangements of the nerve supply and to the great number of viscera with such varied function contained in this portion of the body. The pain may be due to intra—or extra—abdominal disease; it may be acute or chronic, it may be due to inflammatory disease or to traumatism. It is very necessary that we know the anatomy of this portion of the body, and particularly the nerve supply to the abdominal wall and the viscera contained therein.

*Read before the Pendleton County Medical Society.

The abdominal wall including both the muscles and integument receive their nerve supply from the spinal nerves, and the viscera from the sympathetic system. The spinal nerves come directly from the spinal portion of the central nervous system and contain both sensory and motor fibres. The sympathetic nervous system consists of two chains of elongated cords located on either side of the ventral portion of the spinal column, extending from the anterior communicating artery of the brain to the tip of the coccyx. On one hand these cords are connected to the spinal nerves by a series of branches which contain both afferent and efferent fibres, while on the other hand they form plexuses from which the viscera receive their supply. In other words, it is through the sympathetic system that the cerebro-spinal system sends nerve fibres to the viscera and receives nerve fibres from the viscera. The abdominal wall is supplied by the 6th, 7th, 8th, 9th, 10th, 11th, 12th Thoracic and 1st Lumbar. The 6th and 7th supply the epigastrium. The 8th the area between the epigastrium and the umbilical region. The 9th and 10th the umbilical region. The 11th, 12th and 1st lumbar the inguinal region. The six thoracic nerves also supply the intercostal muscles, which accounts for the rigidity of the lower ribs when the abdominal muscles are fixed, and limits the respiration to the upper part of the thorax in abdominal inflammation, thereby giving the injured parts rest.

The liver, kidneys, spleen, suprarenal capsules, pancreas, stomach and a greater portion of the intestinal tract are supplied almost directly from the solar plexus: hence it can be seen why grave symptoms follow severe injuries in this region. The more remote the viscus is from the solar plexus, the less grave are the symptoms. A lesion near the stomach always causes severe nervous manifestations. The pain attendant upon abdominal disturbances may be outside of the abdomen, as in gall bladder or liver diseases, with the pain referred to the tip of the scapula. Pain in the knee may be due to a lesion in or a distension of the sigmoid flexure creating a pressure on the obturator nerve. The pain of renal colic may be located in the thoracic region and simulate pleurisy.

Abdominal pain may be caused by extra abdominal lesions. Persons suffering from caries or malignancy of the vertebra, often complain of pain in the abdomen. Pain of pneumonia is often referred to the region of the gall bladder or appendix, and there are cases on record, where patients in beginning of pneumonia have had the abdomen opened for gall stones and appendicitis only to find

everything normal. I imagine the feeling of the physician in charge when all is made clear within the next twenty-four hours by the development of a well defined pneumonia. These instances should only serve to make us more careful in our examination before diagnosis.

It is of value to have patient state in what area the pain first began, whether it began locally and then disseminated, or whether it was general in beginning and became localized later. A rupture of any of the hollow viscera will cause local pain at first, becoming diffuse later on. In beginning appendicitis the pain is usually referred to the umbilical region and the patient will cover that region with the flat of his hand, but later he will show you the pain in the appendiceal region. However, the pain may be referred to other regions, as the sigmoid flexure or any portion of the epigastrium. Pain in the area of McBurney's point is not always significant of appendicitis, as it may be due to salpingitis, phlebitis of the iliac vein, renal colic or even wind colic.

Generally diffused pain constant and severe in character felt all over the abdomen with the other symptoms: rapid pulse, thirst, tenderness, flexed legs, moderate fever, etc., is indicative of peritonitis. In pancreatitis the pain is sudden in onset, violent in character and usually felt in the left upper zone of the abdomen. The onset of severe pain in the abdomen in the course of typhoid fever is often indicative of perforation. If due to perforation as a rule it is violent enough to make the patient cry out if he is in a stupor. However, severe pain in typhoid may be due to wind colic, acute pleurisy, distended bladder, cholecystitis or impaction of feces.

In acute infectious cholecystitis a rare disease, the pain starts abruptly in R. E. region, is paroxysmal with tenderness over the gall bladder. In gall stones the pain is sharp and lancinating in character, located in R. H. Region and radiating to the right shoulder.

In floating kidney the pain is of a nauseating character, resembling the pain caused by squeezing of a testicle, and the other symptoms simulate renal calculus. The pain of renal colic is usually reflected to the urethra but sometimes the pain is referred to the intestinal region.

In diseases of the bladder, such as cystitis, the pain is in the supra-pubic region from whence it may radiate to the sacrum, perineum, end of the penis or upper portion of the thighs. It is most intense before micturition and is relieved by same. In the vascular diseases of the liver, such as anemia,

hyperemia, thrombosis and embolism, there is some pain in the R. H. region and generally some jaundice. In the fatty infiltrations or degenerations there may or may not be any pain. In acute and chronic perihepatitis there is pain in R. H. or epigastric region, which is increased on deep breathing. In abscess of the liver where there is pain it is generally circumscribed to the hepatic region and radiates to the right shoulder. It is dull and boring in character, differs in severity on change of position and is aggravated by pressure. The pain in carcinoma of the liver is about the same as in abscess only it is more constant. In diseases of the spleen the pain is usually in the L. H. region. Sudden pain in gastric region with vomiting of pus and blood in the course of an infectious disease with splenic enlargement is indicative of rupture of an abscess of the spleen. In the inflammatory diseases of the stomach, the pain is referred to the epigastric region, coming on usually after eating and dull and heavy in character. In ulcer of the stomach pain is the most prominent symptom. The character of pain most diagnostic is an intense gnawing, burning or boring in the epigastrium, more or less periodic and strictly localized in a circumscribed area. Pain is increased by ingestion of food, especially highly seasoned food. Rest diminishes the severity of the pain, as it prevents traction on the ulcer. Pain is absent in about half of the cases.

In carcinoma of the stomach the pain is frequently lancinating, paroxysmal, sometimes severe and radiating, little or not at all affected by food, rarely remits and never intermits for any considerable time, and in some cases pain is entirely absent or very moderate in severity. In the necrosis of secretion, such as hyperemohydria, pain in the epigastrium comes on from one to two hours after eating and varies as to severity.

In the neurosis of sensation, gastralgia is the most important. Pain is located in epigastrium, is agonizing in character, darting through to the back and down the lower ribs, and is relieved by firm pressure over the epigastrium. In inflammatory diseases of the intestines such as catarrhal enteritis, diarrhoeas of children, cholera morbus, etc., the pain is generally of a griping nature and located in epigastric region.

In duodenal ulcer if there is pain it comes on from two to four hours after meals and is localized in the right hypochondriac region. In the acute obstruction, viz.: Strangulation, volvulus and intussusception there is a sudden severe pain in the abdominal region following some abrupt or severe

exertion. Early vomiting and absolute constipation are also conspicuous and important symptoms. The pain is in short paroxysms and localized.

Carcinoma of rectum causes a sharp radiating abdominal pain.

In enteralgia pain develops suddenly and may attain great violence as to produce fainting or cause patient to bend double. It may be circumscribed or diffuse, and is generally attended by gaseous eructations, expulsion of flatus and the like.

In the majority of ovarian affections, the pain is in the iliac regions, radiating to thighs, breast, limbs, sacral regions, bladder or rectum.

The pain of a twisted pedicle of an ovarian cyst is at first referred to the region of the ovary and then rapidly extends to the region of the tumor.

In the various menstrual disorders pain is a prominent symptom, varying in intensity and location, but most frequently located in hypogastrium. It may be referred to symphysis pubis, loins, lumbo, sacral or inguinal regions. The pain of pyosalpinx is generally that of a local peritonitis and is rarely reflected to any other area.

Extra-uterine pregnancy causes but little pain unless rupture and hemorrhage occur, in which case the pain is agonizing, referred to the pelvis, and associated with local tenderness.

The gastric crisis of locomotor ataxia have been mistaken for gastric ulcer and gastroenterostomy performed.

One of the infrequent conditions with pain near the umbilicus, is embolism of the mesenteric artery or vein. The pain is excruciating and patient lies doubled up with agony. These cases progress rapidly towards a fatal termination, from death of a section of the bowel. From our study of the subject we must conclude:

1st. It is not always easy to determine the cause of abdominal pain.

2nd. Abdominal pain as a single symptom is not one that we can base our conclusions upon, but it is a valuable aid.

3rd. That abdominal pain should not be passed over lightly and considered a mere neuralgia, or due to a cold or the results of a little indigestion.

4th. Where all diagnostic measures still leave the cause obscure, an exploratory incision can do but little if any harm and may be the means of saving a life.

THE TONGUE.*

BY CYRUS GRAHAM, HENDERSON.

It has praised our triumphs in song and in story,
It has recorded our failures in the lament and
the dirge,
Then why cannot it speak of our diseases?

As the organ of special sense, "the ready swift" though not always "tuneful tongue" demands particular attention.

Although physicians may not, like Mr. Brass in the Old Curiosity Shop, have "their tongues at their finger ends," the request which they so often make of their patients "to let me see your tongue" is so general that we may almost say that we have the tongues of our patients in that position.

Anatomically the tongue is a large mobile mass occupying the floor of the mouth and forming the anterior wall of the oral pharynx. It is composed chiefly of muscular tissue and covered by mucous membrane. Some claim that this mucous membrane is identical with that of the gastro-intestinal canal, while other investigators assert that the investment of this organ is really a false mucous membrane, derived from an invaginated process of the exterior layer of the blastoderm. Accordingly, in pathologic processes, it comports itself more like a portion of the skin than of the mucous membrane, and that this lingual mucous membrane is a process of the cutaneous investment and of modified structure (See Drs. Mathieu and Roux, *Gazette des Hopitaux*, September, 1903). The sense of taste resides chiefly in its epithelium, where there are flask-shaped bodies called "taste-buds."

It is also the most important organ of speech, and assists in the mastication and deglutition of food. It is also a part of the cutaneous system, and is affected like the skin by general diseases, and as in smallpox, measles, pemphigus and other eruptive diseases, the coating may be owing to and similar to these eruptions.

To quote the editor of the *Medical World*, July, 1904: "The importance of the symptomatology of the lingual mucous membrane has been recognized by physicians from the earliest recorded date of the practice of clinical medicine," and in this paper it is my intention to give the condition of the tongue as noted by different authorities in various diseases.

We know that the mouth is considered by bacteriologists to be a filthy cavern, and subject to infection from the various bacteria, which not only make the bucal cavity their habitat; but are also often ingested with the

different kinds of food taken in during the process of deglutition, as well as by reason of the various chemical changes which are constantly taking place and making it an ideal incubating chamber and a nidus for the continuous procreation of disease, and that furthermore one bacteriologist (Miller) claims to have isolated more than one hundred different kinds of bacteria from the juices and deposits of the mouth, I have found, owing to the many changes chemical and otherwise which must take place, it hard to accept many of the supposed semcia, as worthy of credence. Still in the face of an almost universal belief in the value of evidence which peculiar conditions of the tongue may exhibit in revealing certain pathological conditions of the system, I have never had the courage to attempt to refute the many assertions of clinicians.

While I think in many instances too much importance has been attached to the appearance of the tongue, I am well aware of the fact that he who ignores this organ in the nomenclature of disease, lays aside a diagnostic aid which time and experience has proven to be of great importance.

In the many papers which I have read in the past twenty years upon the various diseases to which human flesh is heir, I think that fully sixty-five per cent. mentioned the appearance of the tongue. And I am willing to admit that my own clinical experience has proven that the tongue is more than a "noisy talker," nor do I think, as one great writer and lecturer was wont to say that "a tongue is a tongue and that is about all there is to it," for as the editor of the *Alkaloid Clinic* wrote in April, 1897, "'tis true that certain appearances of this organ do indicate pathological conditions which require certain remedies." When we had no clinical thermometers, and had not learned the value of urinalysis, nor the pathological changes brought about in the system by the presence of unhealthy spores, the practitioner relied more upon ocular semcia than we do at present and claimed that these various signs were valuable aids in the determining the character of disease.

Hare says that "the three conditions which we should note in examining the tongue, are its coating, its movements and its shape."

In the *Journal A. M. A.* August 14, 1909, page 575, we find the following: "Various explanations have been given of the coating of the tongue. The chief are: 1. The tongue is a part of the cutaneous system and is affected like the skin by general diseases, so that the coating is similar to an eruption of the skin. 2. The coating on the tongue may be due to local disorders of the teeth, oral

*Read before the Henderson County Medical Society.

mucous membrane, throat or nose. 3. The coating may rarely be due to some diseases of the stomach, but as a rule there is no direct relation between disease of the stomach and the fur on the tongue. 4. The coating on the tongue seems frequently to be related to the condition of the bowels, being probably the expression of a general poisoning resulting from the absorption of products of putrefaction by the intestinal mucous membrane."

Again, *Journal A. M. A.* August 11, 1906, in review of paper by Rollin, (*Berliner Klinische Wochenschrift*, Bd. xliii., Nu. 18.) on the Causes of Coated Tongue: Evidence to prove that the microscopic findings in the fasting stomach are identical with those of the tongue. He has also demonstrated that in case of hyperacidity the blood is nourished more than in normal conditions, and in cases of lacking acidity, it is nourished less. The over-nourished blood induces hyperemia, increased metabolism, and consequent throwing off of the superficial epithelium. In such conditions the tongue throws off its epithelium and appears red and clean. In case of lacking acidity, the metabolism is depressed and the epithelium is not thrown off but remains, as a coating. The coated tongue is thus the result of anemia, and the anemia he ascribes to the lacking acidity in the stomach.

Reasoning from the above, I see no reason why an oral sepsis in which we may find staphylococci and streptococci will not also be likely to bring about a septic gastritis, accompanied eventually by an intestinal septic condition and thus after all tracing the trouble back to the original infection of the buccal cavity.

Goepf describes four peculiar appearances of the tongue, and gives them significance in diagnosis.

In a paper published in the *American Journal of Clinical Medicine*, September, 1908, W. G. Post says that "in the present day the student of medicine is taught very thoroughly the use of instruments of precision and the value of laboratory diagnosis. He is impressed thoroughly with the value of post mortem pathological study, and justly so; but unfortunately, when he gets into practice he will find that his patients are absurdly prejudiced against waiting for that method of diagnosis on themselves, and it has occurred to the writer that a reversion to the study of semeiology as practiced by the fathers in medicine would be of value, to the younger members of the profession certainly, and perhaps to some of the older ones."

Again, in the *Journal A. M. A.*, May 7, 1910, Page 1548, we note, "the importance of mouth symptoms in the acute infections,

such as scarlet fever, diphtheria and measles is recognized. It is less generally known, however, that in many constitutional conditions the mouth secretions and the mucous membranes covering the gums, cheeks, tongue, etc., furnish early and positive data for diagnosis." Of late years many clinicians have tried to refute the value of lingual diagnosis, and have attempted to point out the reasons for its frequent failure. Still the tongue is regarded by a great many practitioners as "the mirror of the stomach," and find the expression of disease in its form, its condition of dryness or moisture, its coatings, its movements and its general appearance, and to consider certain changes in its form as expressive of a change in pathological conditions.

Through the valuable experience of others, and my own clinical observations, I have gathered the following notes on the varying conditions of the tongue under different diseases.

In influenza, the tongue is broad and flabby, pale with loaded base, usually moist and where the patient is an alcoholic changing to a light strawberry color as it cleans off. It refers to a want of action of the entire digestive system.

In typhoid fever the tongue presents a coating of a peculiar whitish color, thin and adherent, consisting of an excess of epithelium on the papillae, cannot be rubbed off like sordes, but seems to be an intimate membrane. In color at first pasty, the mucosa pale, with a varying degree of moisture, and with the breath fetid. As the fever progresses the coating becomes thinner, the tongue more pointed and more narrow than usual, with coated center, red edges and tip, later the coating looks leathery and is more tenacious, and we have the brown fur coated tongue of the "typhoid condition" and unless attended to by a competent nurse, it becomes dry and fissured, sometimes peeling off in the center, and with bleeding from the gums and sordes around the teeth, exhibiting a true septic condition. The patient's condition will be very grave. There will be an irritation and a determination of blood to the stomach and intestines, an ulceration and a breaking down of Peyer's patches, and only the most careful attention to detail will prevent a fatal termination. If the tongue cleans off, becomes moist, lips heal, we can be reasonably assured that the patient is on the road to recovery.

Cerebro-spinal Meningitis.—The tongue may be small, with pale coating, and will tremble when patients begin to protrude it. It will have a peculiar glazed appearance along the center.

In mental diseases, Milton Board, see JOURNAL, June, 1910, page 1570, says that "Extreme constipation with a bathtowel tongue is the common picture presented in the greater number of patients who are admitted to institutions for the treatment of disorders of the mind.

In bilious fever, hepatic torpor and malaria, the tongue is generally covered with a white pasty coat, yellow at its base.

Yellow Fever.—(See Dupaquier, The Kidneys and the Tongue in Yellow Fever, *New Orleans Medical and Surgical Journal*, December, 1905) "The tongue of the yellow fever patient is red and raw looking, having a glazed surface studded with enlarged papillae; it resembles the so-called strawberry tongue of scarlatinal toxemia. He has observed this tongue on the fourth day, and has noticed that it is of grave prognostic importance. He depends on this sign as an index of severe toxemia, which will eventually either tell on the kidneys or on the nervous system to the extent of annihilation. Other authorities have noticed that in the latter stage of yellow fever the tongue will become shrunken and fissured and also slightly glazed, showing renal irritation, vascular excitement, and the suspension of the functions of assimilation and nutrition. In pellagra, (see Observations of the Disease in the Peoria State Hospital, *American Journal of Nursing*, May, 1910, by Mary Bird Talcott) "the tongue becomes denuded about the edges, fiery red in color, rapidly spreading until the whole tongue is involved, the tongue often becoming swollen and stiff, and it is with difficulty that it can be protruded for inspection, and fine tremors are often noted."

Autointoxication.—The tongue at first appears rather more narrow than usual, with coated center and bright red edges, and with a coated base, moist and with the papillae showing through the coating just in front of the base. Later on we see smooth patches showing through the coating, and exhibiting the red moist epithelium; then the patient's expression is more anxious, there is a degree of mental hebetude, the tongue changes to the septic brown of the typhoid condition, or even more red and more parrot like, as is seen in septic peritonitis. In measles, herpes, pemphigus, variola and eczema eruptions may appear on the tongue, the buccal mucous membrane, and may break down and ulcerate.

In scarlet fever, we have the strawberry tongue, with papillae sticking up above the coating; especially is this true along the edges.

In erysipelas, we may find a dry, furred tongue, occasionally covered with excoriations and patches of macerated epithelium, and

when the patient's condition becomes serious, changing to a fiery moist red.

In catarrhal stomatitis, the tongue often appears as if too broad to lie beneath the teeth, a turbid mucus may line the inside of the oral cavity, coating the tongue and giving it a slimy appearance.

In gastric catarrh, the tongue is usually heavily coated, white, bad breath, and there is often a disgust for food.

In glossitis, we have inflammation of the parenchyma of the tongue, sometimes with great swelling, macerated epithelium, and of a pale grayish color. It may be due to traumatism or the presence of carious teeth; or it may be due to poisons locally applied.

In this connection will mention that often the tongue may be discolored by drugs; iron or bismuth will cause the tongue to appear almost black; laudanum and some candies will color it chocolate, while other candies will give it a fiery red appearance, and tobacco and various barks will color it brown. Gonorrhoeal stomatitis is of rare occurrence, but in the past twenty years I have tabulated eighteen cases, and we never know where brave Caesar has been grazing. It is characterized by the appearance of yellowish white patches on the tongue and hard palate, and although it takes the microscope to absolutely establish the diagnosis, 'tis best to err on the safe side.

Syphilis shows patches and ulcers becoming badly fissured as the stage advances, and the mucous patches will grow worse, and in many cases the tongue shows tylosis and atrophy. Waugh says, (see *Treatment of the Sick*, page 406), that more than half the affections of the tongue are syphilitic.

Potter (*Boston Medical and Surgical Journal*, March 8, 1906, Value of Virchow's Smooth Atrophy of the Base of the Tongue in the Diagnosis of Syphilis) states as a result of his investigations on a large number of patients that a normal condition of the base of the tongue is probably of considerable value in excluding old syphilitic infection; whereas, a typical atrophy of the base of the tongue in an individual below fifty points to syphilis. A moderate or slightly marked atrophy of the base of this organ is of little value.

Tylosis (see Waugh's *Treatment of the Sick*), may be caused by tobacco, alcohol, syphilides or gout. It is rare except in men after puberty. The tongue is slippery or snow white as far back as the circumvallate papillae, from epithelial hyperplasia. The disease is apt to end in cancer.

Carcinoma of the tongue may present at first old scar tissue, and possibly neglected frequent superficial ulcerative processes and

tylosis. There is generally an apthous coating down the middle of the tongue, frequently peeling off and showing red epithelium, a tendency to ulcerate along the sides and much salivation with pain.

Carcinoma of the stomach, at first presents the broad pallid tongue of gastritis, afterwards changing to the red and shrunk tongue of enfeebled digestion and chronic wasting disease.

In relapsing fever, chronic gastritis, ulcer of the stomach and in neurasthenia, we may see the large pale tongue giving evidence of anemia and enfeebled digestion.

In the anemia from chlorosis or want of proper nourishment, pernicious anemia, associated with sepsis, we will often find a thin transparent coating of the tongue, usually moist, and often trembling when presented to view.

In tuberculosis, we have at first a slight pale coating, changing from time to time as the digestion and assimilation improves or diminishes, becoming dry, with thick brown felt like coat, largely made up of bacteria, the coating dipping down between the papillae, later on becoming red, narrow, small, pointed, forming what is called the "parrot tongue," may assume in the advanced stages of this disease a bluish tinge, and tylosis.

In peritonitis, as well as in nearly all enteric diseases, the tongue presents a coated center with red edges, becoming dry and glazed as the disease becomes serious, with tremors, and with trouble to protrude for inspection.

In yellow atrophy of the liver the coating is very pronounced, the tongue often pinched and shrunk.

This may also occur in occlusion of the common duct, but the condition is rare. In nephritis, the tongue has a thin pale, almost transparent coating, often becoming narrow, pointed and with tylosis, indicating inflammatory condition of the kidneys and irritation of the nerve centers. There is generally very much depression and dryness of the skin.

Diabetes Mellitus.—The tongue is usually dry, red and glazed, and the saliva scanty, may become cracked and fissured, denoting new lesions of the renal organs and irritation of the nerve centers. Gingivitis is also a prominent and early symptom in many diabetes, and in the advanced stages the tongue may ulcerate and there is sometimes apthous stomatitis.

In diabetes insipidus, the tongue may be very pale and slightly coated in the early stages of the disease, the patient grows anemic, and as the disease advances the tongue becomes small, red and dry, inclined to grow

redder and also darker as the disease progresses.

In endocarditis and pericarditis we will find the dry furred tongue. In cerebral thrombosis and embolism, the tongue presents a white furred appearance, with tremors and may be more or less marked with the teeth. In chronic bulbar paralysis, the tongue is usually small and coated a pale white and the patient is able to protrude it only toward the paralyzed side. In all forms of epilepsy, there is usually evidence of the tongue having been bitten.

Puerperal fever presents a pale, broad, moist, flabby tongue, with marks of the teeth along the edges. The tissues are dirty, the tongue at times looks like it is swollen, and at times rather bluish in color, and trembles on being protruded for inspection.

Chronic alcoholism presents a white furred tongue at times swollen, with mucous patches along the edges, and as the victim becomes more and more saturated with the poison tylosis will ensue, the tongue will tremble, and the voice have a muffled sound.

From these important points gathered from experience and the observations of many authorities, we can very aptly quote from the *Journal of the A. M. A.* of May 7, 1910, "It is a matter of extreme importance that the general practitioner shall examine the mouth of all patients, taking careful note of the mucous membrane of the cheeks, beneath the tongue, on the tongue itself, the roof of the mouth, etc. We will find that they will often be of value to us in making our diagnosis."

PARTIAL INVERSION OF THE UTERUS AFTER LABOR.*

By L. G. CONTRI, MILTON.

I was called at half past ten on the evening of Friday, the 7th of January last to attend Mrs. C——, aged thirty-four, a short stout woman, then in labor for her eighth child. On my arrival at her residence about one-half hour afterward, I found her walking about the house apparently very comfortable, having had but few pains, and these at long intervals during the day. She informed me that all her other labors had been quick; and as the membranes had ruptured at eight o'clock (nearly four hours before my visit) she felt convinced that her labor would speedily be terminated. As she walked across the room, I observed her abdomen to be unusually prominent, and suspected she might have twins; but in this I was mistaken. At my request she placed herself on the bed, so that an examination per va-

*Read before the Trimble County Medical Society.

gina might be made, when I discovered the head already low down in the cavity of the pelvis, the os uteri receded beyond the reach of the finger, and the labia and perineum soft and dilatable. As there had been no uterine contraction since I entered the room, but just as she was getting off the bed, in order that it might be more comfortably fixed, a violent pain came on, and almost before I could apply my hand to the perineum the child was expelled and the placenta brought to the os externum by the continuance of the same pain. Having hastily tied the funis, and removed the placenta (which was perfectly loose) I passed my finger into the vagina to ascertain the condition of the os uteri, which I could feel high up, widely dilated, and embracing a soft globular substance, which protruded through it and occupied the vagina. This I first imagined was the bag of membranes belonging to the other foetus I had suspected to be there. To satisfy myself, I placed my other hand on the abdomen, but, to my surprise could feel nothing like the uterus there, although I made deep pressure for it. I therefore instituted a more careful examination of the tumor itself, when the following circumstances assisted me in forming a diagnosis:

First. It was exceedingly sensitive: the least movement of my finger across it occasioned her great pain.

Second. Hemorrhage commenced, though not to any alarming extent.

Third. Symptoms of prostration suddenly manifested themselves more than I should have expected, either from the sudden delivery, or from the bleeding. I accordingly concluded that the present must be a case of partial inversion of the uterus, the fundus having followed, by its sudden and energetic contraction, the placenta through the os uteri, whilst this latter remained dilated.

Acting under this conclusion, I pressed the knuckles of two fingers against the most dependent part of the tumor, and was delighted to feel it gradually give away, until it suddenly hasted back into its place in the pelvis, leaving my hand occupying its cavity.

I could now distinctly feel it through the abdominal particles firm and well contracted, although the os uteri still remained considerably dilated.

The hemorrhage immediately ceased when the inversion was reduced. After waiting an hour with her, during which time there was no symptom indicating danger, and having supplied a bandage firmly around the lower part of the abdomen, I left her. Mrs. C— had a speedy and most favorable recovery.

OBSERVATIONS.

There are few circumstances connected

with the foregoing history that are perhaps worthy of being considered more in detail.

First. This was evidently a case of spontaneous inversion, produced by the vigorous but irregular contraction of the uterus. It is undoubtedly true, that by far the greater proportion of these cases, when they occur arise from unskilled management in the last degree of labor, unjustifiable traction being made at the funis, for the purpose of speedily removing the placenta, whilst the uterus itself remains dilated and flaccid; so that the fundus is literally dragged down through the os internum in the vagina, where it is but too often allowed to remain until all possibility of returning it is forever lost. Still I think it may be fairly questioned whether traction is always the exciting cause of this accident, whether made by the hand of the accoucheur or by the usual shortness of the cord pulling down the placenta and fundus uteri, where it has occurred in cases of very rapid delivery: at any rate, neither of the cases could operate in the case I have related: for in the first place I had no opportunity of removing the placenta from the uterus, and in the second, the funis was longer than ordinary—a point concerning which I fully satisfied myself before leaving the room.

Every experienced accoucheur is aware that irregularities do frequently occur in the contraction of the uterus, one part becoming hard and firm, whilst an other remains soft and dilated; in fact it is from this very circumstance that much difficulty is occasionally experienced in removing the placenta. I have frequently observed, especially in thin women in whom the uterus could be distinctly felt through the abdominal walls, that, during the contractions, after the expulsion of the child there has been for a short period a very manifest depression in one situation, but which, immediately afterwards, I have been unable to find.

This circumstance I imagine depends upon some irregularity or inequality in the action of the uterine fibres; and the same acting more powerfully, particularly at the fundus of the uterus, may undoubtedly give rise to inversion. Nor is this mere speculation, for accidents of this kind now and then happen, which cannot be satisfactorily explained.

Again cases of inversion are recorded where, for several hours and even days after delivery no symptom has manifested itself which could lead even the most anxious attendant to suspect the occurrence of such a fearful accident.

There is a case recorded in the *Obstetric Journal* of a woman who was rapidly recov-

ering from a favorable labor, but who, on the third day from the delivery, "whilst making violent efforts to evacuate the contents of the rectum, felt a bulky mass descend through the vagina, which was followed by great pain in the abdomen and the displaced parts, and in the groin, with strong efforts to vomit and a sensation of faintness." The uterus was discovered to be completely inverted, and the accident had undoubtedly occurred when the straining efforts were made. Again I have read of a woman favorably recovering from a natural labor, having not bad symptoms, when in the second day from her confinement the uterus was inverted during an action caused by a dose of castor oil, which she had taken. Other cases might be adduced of the same character and the conclusion that forces itself upon the mind is that inversion does sometimes take place unconnected with any traction made the fundus uteri either by an unusually short funis or by the hand of the accoucheur.

Second. Of the symptoms present in the above case, two were most prominent, viz.: the highly sensitive tumor occupying the upper part of the vagina, and the sudden depression of the patient. When these symptoms appear after a labor there can be but little doubt as to the nature of the accident and the necessity for immediate and judicious treatment. I found upon reference to the published cases of this kind, that in almost every instance, mention is made of the sudden prostration of the vital powers, as indicated by a tendency to syncope, hiccough, etc. This I believe does not arise so much from the loss of blood, as from the shock produced by the sudden displacement of the parts; it is in fact similar to prostration consequent upon injury inflicted upon any other organ largely supplied with the nerves of organic life.

It is not necessary to make any remark upon the first mentioned symptom, since the discovery of a highly sensitive tumor in such a situation, and at such a time cannot be mistaken; but I may express an opinion that is incumbent on every one who makes himself responsible for a woman's safety during her labor, not to leave the room until he has carefully ascertained the condition of the os uteri, and also the situation and degree of contraction of the uterus itself, the former by an examination per vaginam, and the latter through the abdominal walls.

Third. In no case is the importance of forming a correct diagnosis more forcibly exhibited than in one of this nature. Discovered at the time of its occurrence nothing is more simple than its reduction, nothing more certain than its successful issue.

But let the nature of the case be overlooked or misunderstood in the first instance, and it is almost equally certain that the discovery will be made too late to save the woman from an untimely and miserable end.

OSTEOMYELITIS.*

BY J. R. CRITTENDEN, GORDONVILLE.

Why text books on surgery, some of which are recognized by our medical school, devote so little space to this trouble I cannot see, unless there is so little to say about it. In fact some of our small books give us more information than the others, which claim to be so thorough in their surgery. It has been said to me by students, Dr. P. F. Eve, while he was teaching surgery that much importance to the subject of Osteomyelitis was given by him and one of his favorite questions in quiz was cause and treatment of osteomyelitis of the first phalanx, osteomyelitis (which includes both osteitis and medullitis, i. e., myelitis of bone), is the most common form of bone inflammation, the cause of which may be either local, general or septic.

As in inflammation of the soft tissues, the parts are congested, the blood vessels dilated, in fact irritation, congestion and stasis as in inflammation of the soft tissue, effusion and exudation take place and there is increased cell growth. If the disease is slight and due to traumatism and if resolution quickly follows, no organic change is produced in bone layers; but ordinarily there occurs more or less destruction, either in mass necrosis, or molecular caries, limited or extensive according to the degree of the inflammation and its exciting cause. In necrosis the dead part is called a sequestrum. When perforation of the overlying soft tissue has occurred, upon probing necrosed bone is to be recognized by its hardness and its sharp, clear, percussion note. When struck, caries of the bone giving out a dull sound, if any, and being readily penetrated by the instrument. These two forms of bone-death are to the osseous system what gangrene and ulceration are to the soft parts. Necrosis, like gangrene, being due to a cause which directly or indirectly cuts off the blood supply to or interrupts the outflow from an area large enough to be recognized by the unaided eye; while in caries, as in ulceration, the cells of an abnormally succulent part melt down and are discharged.

As we meet it in our practices, necrosis is most often due to a non-traumatic infective inflammation, at times from injuries, fractures, permitting entrance of pyogenic or-

*Read before the Todd County Medical Society.

ganisms, severe contusions or exposure to cold or high heat.

In bones of the head and face it rarely is not of syphilitic origin. Caries, the ulceration of bone, is almost always due to tubercular infection in about nine-tenths of the cases, deposits taking place readily as a result of slight traumatism.

Osteomyelitis is acute or more frequently chronic. In acute and severe cases the resistance of the rigid walls causes such compression of the vessels and formation of new cell mass, causing strangulation and vitality cannot be preserved; then necrosis necessarily results. Such is always to be looked for in the acute infective or suggestive type. During the rarefying action small pieces of bone may be destroyed and separated, necrotic caries of which as stated before, nine-tenths are if not necrotic of tubercular origin, deposits taking place readily and slight traumatism will cause it to occur. It is during years of growth in the parts of the bone in which such growth chiefly occurs, as about the epiphyseal lines and in that portion of the skeleton particularly subject to blows, shocks and the action of cold that this form of disease is ordinarily observed. Here as everywhere else the bacilli cause softening of the parts about them, but if few in number and limited in action, they may be destroyed or shut in, so that by cicatrization or encapsulation recovery will take place, this often occurs, but then it is like a powder mill, to break out in after years, at any time that there is an exciting cause, as are most frequently met with in adults, especially in those with a tubercular diathesis. Osteomyelitis is caused by a number of pyogenic organisms that will cause these septic diseases of bone. The staphylococcus aureus is said to be one most commonly met with. Next to it is streptococcus pyogenes. It is either acute or chronic, limited or widespread, with considerable destruction of bone and corresponding intensity of local and general symptoms. We are all too well acquainted with this infection in or following typhoid fever, and know its tendency to occur simultaneously or consecutively in development in like parts in both sides of the body, which are nearly all suppurative in type.

Simple acute osteomyelitis may be from traumatism, etc. But I cannot agree with authors who say it is of little importance. Neither can I when they say that pain is usually not severe in these cases. Experience is in the acute that it is one of the most complicated of subjective symptoms which all patients always told me were very severe. In chronic I have seen some cases who seldom ever complained of any pain. The sec-

ond types are with open wound, ordinarily in shaft of long bone, and usually in adults. Others without a wound and are in the parts near epiphyseal line; it is a disease of childhood or on adults who had this in early life, and thus a recurrence as stated before.

First Type.—Thanks be to antiseptic surgery is comparatively rare.

Second Type.—The wound infection having taken place at time of injury, which may be either mild with little suppuration or even be so much septic infection and putrid matter that there is a rapid septic process and fatal issue. But now I see that I have not covered the points in this subject, but as time forbids, and such as I have touched on is in such an imperfect way, will now refer to treatment. Treatment of this could be summed up in a few words, incise, clean out and keep clean.

Knife in this is essential, it lessens tension, both in soft tissues by letting out the blood, and in the bone matter. But the incision should be long enough and deep enough to cut through the periosteum and thus relieve tension and pus, if any is present. My observation and I sometimes find that I did not use the knife freely enough. This should be done under strict septic precautions and followed with antiseptic dressing to prevent any further infection. Of course proper regard should be paid to general health of patient in regard to any constitutional disease and it sequestrum is found it should have such treatment. Surgical removal is the only proper treatment. I do not have much faith in external applications to set back or abort these cases of osteomyelitis. Some people have written as much as I one time had myself.

Medical Treatment of Tuberculous Peritonitis.

—Morano's patient was a girl of nineteen with signs of tubercular peritonitis, swollen glands in the neck and inguinal region and a fistula left from an abscess in the breast. He injected a solution of iodine and iodide, according to Durante's technique, adding a little guaiacol. Improvement soon became manifest, and after forty-seven daily injections the patient was cured. The patient has been in the best of health during the five years since, and Morano commends the iodo-iodide solution as at least worthy of a trial in case operative measures are contraindicated.

FOR SALE.—Village and country practice amounting to \$1,800.00 per annum, collections 95%. Cottage (new), good barn and out buildings, five acres of land, in Warren County. Will introduce purchaser. Price \$1,600.00. Address X, care **The Journal**, Bowling Green, Ky.

PUERPERAL ECLAMPSIA.*

By J. J. WAKEFIELD, BLOOMFIELD.

Puerperal eclampsia is, if not the gravest, the most dreaded complication that confronts the physician in the pregnant, puerperal and lying in woman. It may occur before, during or after labor. There is nothing that so unsettles the doctor, I know of nothing that so taxes his sagacity. Upon his skill and prompt action largely rest the issue. The attack comes on with startling suddenness. The premonitory symptoms are manifested in twitching of the muscles of the face and a peculiar stare with a tonic condition of the whole system. This is followed in quick succession by terribly distorted, livid cyanosed face. The head drawn to one side, eyes rolled back showing only the sclerotic, the tongue protruded, and often a bloody froth issuing from the mouth. The veins of the neck are terribly distorted, and the carotids full and throbbing. The whole body is now in a state of clonic spasm. The convulsion lasts from three to five minutes, when the patient, if coma does not follow, slowly regains consciousness. This about completes the diagnostic picture with which I suppose, all of us are familiar. The patient may die in the very onset of the attack. Some of the writers say that one in three or four dies. I hardly think the death rate so high. The increased knowledge of the disease and in consequence the improved method of management and treatment should give us a lower mortality rate. The pathology of eclampsia has not been settled; up to the recent past the writers held to the uremic theory, and reasoned very logically too that the decomposition of urea in the blood caused eclampsia. More recently, however, many observers discard this theory, some of them hold the opinions that certain changes in the placenta account for the trouble, while there are others who believe the toxins that produce eclampsia have their origin in the intestinal tract. So we are still groping for a cause that will clear the case.

What is the cause of eclampsia? I am frank to say that I don't know. It is a condition and not a theory that confronts us, a condition incident to the pregnant puerperal, and lying in woman. No pregnancy, no eclampsia. But it concerns us to cure the woman and give her back to her family. Now comes up the question of management and treatment. Eclampsia may and does occur before, during or after labor. If it occurs before labor begins, however, the severe clonic character of the convulsion is imparted to the uterus, and labor very soon ensues. My observations have been that in those cases in which convulsions occurred before delivery,

labor had already begun when the attack came on. Here arises a question of policy as to the proper course to pursue, whether it is better to terminate the labor as speedily as possible, or leave this to the efforts of nature, and in the meantime institute measures for relief of the convulsion. If the labor is progressing well and the type of convulsion is of moderate severity and not too frequent, I should be disposed to leave the case to nature. Reverse the conditions, I would empty the womb at the earliest possible moment. There is developed during pregnancy a special nervous irritability which favors these nerve explosions at the time of labor. The condition is essentially a toxemia. The indications call for control of the convulsions, allaying irritability and elimination of toxins.

Chloroform has the effect to shorten the convulsion, though its effects are transient and tends to inhibit renal action, its usefulness is acknowledged.

Blood-letting.—Among the older obstetricians this was a universal practice. The pendulum has swung to the other extreme, as many of the present obstetricians condemn the practice. In selected cases it is a useful measure. In plethoric subjects with engorged livid face, throbbing carotids, distorted veins and full bounding pulse, I would bleed, and bleed to a point that relieved this condition. It often has the effect at least for a time to relieve convulsions, and at times relieves the coma. If it gives only transient respite it gives time to get in other measures for control of the spasm. If the subject were anemic I would not bleed. Chloral as a nerve sedative is indicated though it has its dangers. If the patient is unable to swallow it can be used per rectum. Purgatives of course are the most important part of the treatment, as through their effect we hope to get rid of toxins. Standing at the head of the list is croton oil. Give two or three minims. Elixerium is useful on account of its effect to rid the system of serum. Calomel and salines, in fact any active purgative that can be given is indicated. Saline solution under the skin and high in the bowels favors renal elimination. Hot wet packs to the body help eliminate through the skin. Eliminate by the skin, bowels, and kidneys. Keep in mind this aphorism.

In eclampsia eliminate. Veratrum viride, extolled by the obstetricians of former years, has had a varying career. At one time used quite extensively, but later abandoned. In more recent years it has been revived and some observers give it a pronounced place in the treatment of eclampsia, yet there are others who claim that it has no special value. My experience with it, while limited to four cases, has been highly satisfactory, as all of

*Read to the Nelson County Medical Society, July 7, 1910

them recovered. The point of first importance in the use of veratrum is the dose, and method of using it. The form used in the cases mentioned was the fluid extract given hypodermically. The dose is determined by the pulse rate. If the pulse is 120 or more 20 or 25 drops should be the initial dose. The physiological effects should be secured in 30 minutes; this is manifested in slowing the pulse; if within this time the pulse has not been slowed the dose should be repeated, and thereafter in gradually smaller and less frequent doses, according to the effects produced. To stop the convulsions the pulse should be brought down to 60 and kept there. It is of prime importance to keep the pulse rate down to 60, or a little below that rate is better, for 24 hours, or until assured that there is no danger of recurring convulsions. There is little danger of a convulsion if the pulse is kept down to 60, and it can be brought there, and kept there, if adequate doses are given. Its power to control the great vascular tension observed in these cases together with its action in increasing the urine, perspiration and glandular secretion suggest it as a valuable agent, and I commend it for trial to any of you who have not used it, and I hope it may prove, as I believe it has to me, a valuable medicine in the treatment of this grave and much dreaded condition.

DISCUSSION.

W. L. Heizer used veratrum, blood letting, pilocarpine, and active and quick elimination, and believed in speedy delivery.

H. E. McKay: Headache, which is not mentioned by the essayist, is a pronounced and early symptom and when it exists should receive our attention. He believes that it is hard to get a reliable fluid extract of veratrum, that many of its preparations are not good; believes that bleeding is demanded in all plethoric cases, especially if the pulse is full and bounding. We cannot confine ourselves to any one treatment, but must meet all of the symptoms and conditions as they arise.

W. Ed. Grant: I have never used the veratrum, but treat all the indications as they arise and deliver as quick as possible.

B. E. Gore: I use chloroform to control the spasmodic condition and then rely on elimination.

Hugh D. Rodman: Dr. Wakefield has given a beautiful picture of an eclamptic woman and very correctly says that there is nothing that so taxes the physician as a puerperal convulsion. If the woman is the least plethoric, I bleed freely. I rely on chloral and bromide to control the spasmodic condition, empty the bladder with catheter, and bowel by enema, and rely altogether on elimination to cure the patient, always with

good results; had never seen but one patient die from this cause.

J. J. Wakefield (in closing): I have seen three women die in convulsions, which were the first three seen by me. I believe that with the free elimination and with 20 to 25 drops of the fluid extract of veratrum you can bring the pulse down to 60 per minute and keep it there by repeated doses hypodermically. If you do this your patient will get well.

JUSTIFIABLE ABORTIONS.*

BY W. LUCIEN HEIZER, NEW HAVEN, KY.

Abortions, in the meaning of this paper, will include all premature expulsions of the products of conception, from the time of impregnation to the time for the deliverance of a fully developed child.

This operation, from the standpoint of abstract morality, may be divided into the unjustifiable abortions which are always criminal abortions, infanticide, or plain murder, and justifiable abortions.

The prevalence of the former, we fear, is hardly recognized by our fellow doctors, clergymen and grand juries. Not by our physicians, for surely, actuated as we are by the spirit of our profession to save human lives, and realizing, as we must, that cognizance of the evil must first come through us, we would make an active, systematic and effective effort to stamp out this widely prevalent crime. Not by the clergy, for high-minded and God-fearing as they are, they would not stand idly in their pulpits, refusing for modesty's sake, to lift their voices in angry protestation of a crime committed in secret thousands of times where one murder is proclaimed by hue and cry. Not by our grand juries, for notwithstanding that Justice sometimes blinds her eyes to folly, the law, with an avenging hand to punish the guilty is ever ready when sufficient evidence is presented.

It is said that in our metropolis, one alleged abortionist bought last year, four hundred dozen soft-rubber catheters with which he kills his hundreds of babies a year, and that each night, five to fifteen women are anxiously waiting their turn to become a party to the crime of murdering their own babies.

Only recently was the writer called by telephone to come to the city on the next train to aid in the delivery of a foetus which had been killed by this alleged abortionist, and to assist in weaving a web of written testimony which would send the perpetrator to the penitentiary, or at least would have him expelled from the ranks of our honored profession. Our reasons for not going were based upon the belief that, through fear of exposure in

*Read at a meeting of the Nelson County Medical Society, July 7, 1910.

the courts or possible punishment by law, the chief witnesses would deny all knowledge of the affair and leave us in a very embarrassing position. Though the matter never reached the courts or even the State Board, the whole family disappeared and it was learned, afterwards, that they had moved to Cincinnati to escape appearing in court.

It is difficult, if not impossible, to secure a statistical estimate of the unjustifiable abortions done, for obvious reasons, yet in my investigations of the subject, I have been amazed at the number of women who are known to have had abortions performed. One little woman whom I had known had had eight performed in three years. We learned this through conversations with leading practitioners and surgeons who had been called to remove the *debris* of a rather clumsy operation. The number who have escaped trouble, after the performance of the crime, far outnumber those who have doctors see them, for the abortionist always instructs the victim and accomplice not to see a doctor, as he will not be needed and, besides, he might expose her guilt.

Under our new abortion law which has gone into effect, it is probable that we shall secure some convictions against these modern Herods who thrive best in large cities, but who ply their inhuman trade equally as well in more rural communities.

The treatment of this subject in its sociological relations as to cause and effect upon individuals and society, its prevention and cure, constitutes one of the most difficult phases of sociology and, therefore, it is impossible to do more than mention its importance.

What we have to do with and what is far more important to us as practitioners, is to settle, in our own minds, our duty when we are confronted with the possibility of sacrificing human life.

We would say, in the first place, that each case is a law unto itself, and one must be governed by the circumstances present. We would set down as an unailing rule that the inductions of abortion, for any other cause than that of saving the life of the mother, is plain murder, and the man who does that thing is a murderer, in the sight of God and man.

In the second place, we would say, equally as emphatically, that the man who does an abortion, by and with the consent of the mother (and father), after consultation with one or more conscientious fellow-practitioners, in an earnest effort to save the life of the mother, is not a murderer, but a saviour of human life. We believe, with all due respect for those who may differ from that proposition, that a careful consideration of

the subject, in the light of modern medicine, and with a view to do impartial justice to all parties concerned, will lead one to that conclusion.

After all, human knowledge is a frail, sickly thing. The things we know we know today, will, tomorrow, be what we thought we knew. What we stamp as truths in our adult lives may be fallacies taught from our youth up, told us by our parents and our parents' parents, and steadfastly upheld by our sturdy selves—merely boys grown up. It is no wonder, therefore, that so many divergent and incomparable beliefs are stored in our brain cells labeled as truths.

Human life, like other animal and vegetable life has a relative value, and the value of a human life is infinite. Being human, we cannot be sure what God thinks of human life. He may consider the soul of one equal to another, but as far as our finite conception of the values of human life is concerned, we know that the value of human life is relative. We need only to think of the ignorant, drunken, immoral, aged wretch, or the hopeless idiot, or the professional infant murderer, in comparison with our noblest men, dead or living, to have this truth impressed upon our minds. Compare, for instance, Booth and Lincoln, McKinley and his assassin, George Washington and a depraved Indian chief, and a highly-respected good woman with one of the streets, or a faithful, loving mother of children to a human embryo of two cells a few minutes after impregnation, and say that the value of human life is not relative. This to our mind is incontrovertible, and constitutes the first promise to our belief in justifiable abortions.

In the next place, we believe in the two great divisions of conduct, right and wrong. We believe, as do about all civilized people, that we can sin, and do sin, both by omission and commission, and that no man with sin upon his soul can enter into the Kingdom of Heaven. As far as we know, these principles are accepted universally by the Christian religion, and largely, in a somewhat modified conception, by the pagans.

What would be our judgment, as a jury, if an engineer of a passenger train, seeing a burning bridge ahead, and having been warned of serious danger, should deliberately refuse to stop his train, and rush headlong into destruction? Of how many murders would he be guilty, even though he had orders to maintain a certain schedule? Or what would be our verdict of an officer of the law if, upon witnessing a serious crime, he should walk away and keep silent for a consideration, either for money or for the good of the reputation of the wrong doer? Or what should a jury's verdict be, if you, standing

with your emergency surgical grip in hand, should witness an accident and refuse to clamp a bleeding jugular, though importuned to do so by bystanders?

It is undeniable that the indications for producing abortion are not so many or so urgent as might, at first, seem. Excessive vomiting, for instance, may be relieved by various means, even after it has reached an intolerable degree, as it might seem. But there are conditions arising when two or more physicians, called to a desperate case, must resolve themselves at once into a legislative, judicial and executive department of a government of their own making, for a proper interpretation and execution of laws affecting two human lives. And who shall say their power is any less than the power given by the God-given laws of the land to a jury of "Twelve men, good and true," to pass upon the life of the murderer, and to sacrifice it when the health of society demands it?

Here is a condition that obtained lately. A mother of a fine boy, wife of a noble husband, a woman good and true, conceived and in two months became demented. A keeper was necessary to prevent her from committing depredations. All efforts to relieve her condition failed. Malingering and hysteria were positively excluded. Two good physicians agreed that the condition was getting progressively worse, that, if continued, it might affect her permanently, and that the offspring, if still alive, might suffer from bodily or mental undevelopment, and that their interpretation of these conditions meant immediate delivery of that foetus, living or dead. Acting as chief executives, abortion was done. Seven days later, the woman had regained her health, strength and mind, and resumed charge of the boy who so badly needed her influence, and was once more the loving wife of the man who was almost distracted over his companion's condition. What man under Heaven shall dare take unto himself the prerogative of God Almighty and declare that here was a wrong done? Here the health of society did not demand the death of an adult, but the life of a wife and mother, far greater relatively, than the life of an unborn child, probably dead, demanded the removal of that foetus.

Another mother of several boys and girls conceived and in the early months, was stricken with convulsions, which refused to yield to any form of treatment. Again were the conditions studied carefully by conscientious doctors, a sentence was passed and executed. In two days the mother was normal. Suppose these doctors had refused to do these operations, in one of which the child was dead, knowing as well as they could know that these women would die shortly, how far different

would that be from the man who would refuse to clamp a bleeding jugular?

There are a number of border-line cases which are incapable of being defined. In advanced malignancy where conception occurs rarely, in tumors, in a deformed pelvis where operating facilities are not of the best, or when, even, they are of the best, in some of the persistent and dangerous toxemias of pregnancy, in conceptions after a criminal assault by a brute upon a respectable lady, in advanced tuberculosis, in grave heart lesions or other circulatory disease where there is great possibility of sudden death during the efforts of birth and in placenta praevia, the attendant circumstances and conditions present in each case will determine what shall be done in that case. They are all border-line cases and deserve the careful and prayerful attention and co-operation of one or more consultants before an attempt is made to sacrifice human life.

The writer has never found it necessary, in his short career of six years, to do an abortion, neither has his father, who has been practicing thirty years, but he is fully convinced that conditions do arise when the operation is demanded, is justifiable in the sight of God, and when confronted with those conditions and his opinion concurred in by one or more high-minded men, would, without the least hesitation or remorse of conscience afterwards, do this live-saving measure. And I would feel that, having made up my mind that the woman must die, and refused to save her life by premature delivery, I had added one more to the list of preventable deaths for which I was responsible.

DISCUSSION.

H. E. McKay: I indorse what the essayist has said and think that he has taken the right view of the subject. Guy Grigsby had been present three times when abortion was produced and believed it was justifiable in all such cases and should be practiced when thought necessary to save the mother's life.

R. H. Greenwell: I do not agree with the essayist as to the killing of the unborn child. I do not think that we are ever justifiable in so doing.

J. J. Wakefield: I endorse the essayist's views on the subject. I believe we are justified in sacrificing the unborn babe to save the mother's life. I have had one case where abortion was produced, and I believe it the proper course to pursue.

S. A. Cox: The paper is an excellent one and I endorse the essayist's views.

W. Ed. Grant: I heartily agree with the essayist that the mother's life should be saved. I feel that young men are more prone to relieve their patients than older ones, and that the

young doctor should be careful and never yield to the entreaties of the wrong doer.

Hugh D. Rodman: Gentlemen, we are treading on sacred grounds. God gave to Moses the Decalogue or Ten Commandments in which He said, Thou Shalt Not Kill." Killing is defined as "All taking of life." Now there are three, and only three exceptions to this commandment. They are these:

The hangman, in the execution of the condemned criminal does not commit murder.

The soldier in the defense of his country does not commit murder.

The man when in defense of his own life kills his assailant does not murder him.

These, gentlemen are the only cases or conditions where we are justified in taking human life. The killing of the foetus in utero is never justifiable. We do not know, yea, we never know, whether our patient is going to die or live. The unborn babe is not an unjust assailant, it is in no way responsible for its being nor its effect on the mother's condition. It is not an aggressor, it has made no assault on any one. Neither its mother, nor you. It is entitled to our protection, to our tenderest care, and for us to take its life is murder. As I said above, gentlemen, we do not know when our patients are going to die. How many of you have seen the pregnant woman, when you believed it was impossible for her to live, yet both she and her unborn babe lived, and still live. All mothers should refuse to give consent to such proceedings. Quotations were here read from Wharton and Stille from Coppens, and an opinion from Lord Chief Justice of England, Judge Coleridge, in support of such views as expressed by the speaker.

W. Lucian Heizer (in closing): I expected opposition to my views, but I believe abortion is occasionally justifiable, and it is by honest difference that we arise discussions that we are benefitted.

Adjourned for dinner at the Newman House, where all present were dined at the expense of the Nelson County Medical Society.

OFFICIAL ANNOUNCEMENT.

The second annual meeting of the Association of County Secretaries will be held on Monday evening preceeding the general session of the Kentucky State Medical Association. The following program has been arranged:

"The Aims and Designs of This Association"

Hugh D. Rodman., Bardstown.

"The Relation of the Councilor to the County Society"

B. F. Zimmerman, Louisville.

"Membership and Attendance".....B. E. Giannini.

"My Experiences as a Secretary"....L. G. Contri, Milton.

"How Can the County Society Meetings Be Made More Interesting".....T. A. Frazier, Marion.

"What Can the County Secretary Do for the JOURNAL"

A. Skaggs, Morehead.

"What Can the JOURNAL Do for the County Secretary"

B. M. Taylor, Greensburg.

HUGH D. RODMAN, PRESIDENT.

COUNTY SOCIETY REPORT

Adair.—The Adair County Medical Society met in Columbia, on July 16th, with the following members present: E. T. Salee, President; U. L. Taylor, Secretary; William Blair, A. E. Waggener, J. T. Hammonds, William R. Grossom, W. F. Cartwright and L. F. Hammonds, of Danville, Casey County, Councilor for the 11th District. Nobody was prepared on the program, except Dr. Blair, who read a very thoughtful and earnest paper on Medical Societies. It was supplemented by a talk from Dr. Hammond of the 11th District, along the same line. Several members gave talks on the "Society," which were interesting, and very instructive. We had several cases reported that to say the least were very uncommon.

William Blair reported a case. He said several years ago he was called to see a woman four or five months pregnant. She had a few days before received a fall, and soon after began to swell. She swelled so rapidly that by the time of the doctor's visit, she was as large as a woman at full term. She was suffering severely, not with regular labor pains, but felt like she was tearing open. The doctor saw that something had to be done and that speedily, or the woman would surely die. It was a bad night, and far away from consultation, and that was not thought of. He resolved to bring on labor, if it could be done. The pains continued, and grew worse. He succeeded in dilating the os so that he could rupture the membranes with a probe. The water began to flow, and continued until several gallons had come away, and the patient was reduced in size to almost normal. She became quiet and easy, and continued that way through the night. The doctor left next morning, and that afternoon, about night, he was informed by the woman's husband, labor came on and she was delivered without difficulty. She had a good recovery. Now two questions the doctor asked the Society. First, did he do right in producing abortion? Second, where did that water come from, and why did come? The Society without exception, answered in the affirmative to the first question, but could not answer the next.

U. L. Taylor reported this case: Several years ago I was called to go with a doctor to assist him in a case of obstetrics. He told me to get my horse and obstetrical case and he would tell me of the case as we went along. I was astonished when he told me who the woman was. I had seen her almost every day, and had never discovered that she was pregnant. The doctor said she was, and had been in labor for two days. I asked him if she were having labor pains. He said not. I asked if she were enlarged. He said not until that day. I asked him if she was having any retention of urine. He

said she had not, for he noticed that every time he examined her, her urine would dribble away. Before we reached the house I had become convinced that the woman was not pregnant at all. So I hid my instruments away, and did not take them to the house. At the gate I met another doctor that had been called to assist in the case. I should have stated sooner that the patient all the time protested that she was not pregnant. I examined the case, took a catheter and drew off about two gallons of urine, and that ended the case. That doctor is not living here now, but he is still in the State. If he sees this case reported, he will recognize it.

L. F. Hammonds, of Dunnville, reported this remarkable case: A few years ago he was called to see a case of stricture of the urethra. The patient had had gonorrhea twelve or fifteen years before. The patient seemed to have several strictures, and it seemed impossible to introduce a catheter. His scrotum was very much enlarged, and was perfectly black. A short time after this, an opening was made into the urethra, just behind the scrotum, and the urine passed that way. But the scrotum continued to swell until it was as large as a man's head, and black as a raven. About this time the scrotum began to slough, all sloughed away leaving the testicles hanging only by the cords perfectly naked. The urine continued to pass through the fistulas opening, and the doctors in attendance made arrangements to castrate him. They met for that purpose, when to their amazement they discovered that Doctor Nature had begun building a new scrotum. This continued until a new scrotum was completed, and the patient recovered with a new one almost as perfect as the original one. The strictures were then cured, and the patient was a well man, and has been ever since.

Christian.—The Christian County Medical Society met at Fleming's Cave, one mile from Hopkinsville, on July 19, 1910. This was the occasion of the annual barbecue. The Society was opened at 10:30, with President Caudle in the chair.

Present: Drs. Caudle, Lackey, Woosley, Brown, Reynolds Southall, Beazley, Sisk, Peyton, Harris, Farmer, Wright, Rau, Sandbach, Erkiletian, Gates, Lacey, Jackson, Earl, Edwards, Keith, Hendon, Harned, Blakey, Thomas, Roach, Campbell, Sights, McDaniel, Tate, Durham, Stoue, Stites, Payne, Barker, Boyd, Allen and Rice.

G. A. Hendon, of Louisville, was present and read us a paper on "Acute Osteomyelitis." This paper was appreciated very much, and was pronounced one of the best ever read before this Society. Dr. Hendon illustrated his subject with stereopticon views.

Ernest Rau, of Bowling Green, gave us a talk upon organization, which was very beneficial. Quite a number of visiting doctors were present. After the discussion we all repaired to the

table, where we feasted upon old fashioned barbecue. Taken both as a social and a scientific meeting we think we had a very successful one. We hope to have the pleasure of entertaining Drs. Hendon and Rau, as well as the other gentlemen from a distance, who have not been mentioned by name, at some future time again.

J. H. RICE, Secretary.

Daviess.—The Daviess County Medical Society met at Hickman Park on June 21st. C. H. Todd, the President, presided, and fifty-three members were present.

O. W. Edge, of Whitesville, made application for membership.

P. D. Gillim read a paper on the administration of chloroform. The paper was generally discussed and complimented by all the speakers.

At this point the Society adjourned to partake of a barbecued dinner, furnished by the out-of-town physicians and their wives. Barbecued lamb, burgoo, ice cream and cake were the long suits. Everybody drew to them several times and made full.

C. H. Todd as toastmaster, was in his prime; and Drs. J. W. Ellis and W. L. Tyler did themselves proud in response to toasts.

J. A. Kirk at the afternoon session read a paper on Summer Diarrhoea in Children.

C. J. Lockhart in discussing this paper said he did not use opium in such cases, but if he needed an anodyne he used hyoseyamus.

R. E. Griffin never uses opium; gives mercury and flushes out the bowel.

O. W. Rash gives no nourishment for 24 to 48 hours. For drink gives sterilized water. Gives calomel in doses of 2 to 5 grains every 3 to 4 hours. Begins feeding with diluted butter-milk.

W. L. Tyler said it was an infection and the first thing to do was to eliminate the poison.

G. L. Barr gives calomel to clean out the bowel, and then keeps them clean.

Z. H. Shultz said Mrs. Winslow's Soothing Syrup and like medicines are responsible for most of our troubles. The people try them first and wait too long to call us.

S. J. Harris prefers castor oil to clean out the bowels.

J. L. Carter said these little patients are usually narcotized by Owen's Pink Mixture, Mrs. Winslow's Soothing Syrup, etc., before we see them. We should stop these vultures from filling our graveyards with little graves. He usually gives calomel in 1-10 grain doses.

J. W. Ellis thinks the best remedy in small doses is calomel and soda. He doubts if flushing does any good. Does not think we can pass tube beyond the sigmoid flexure.

E. E. Turner said it was a food intoxication. Stop all food, use castor oil, bismuth and opium when needed.

J. A. Kirk closed the discussion with a few remarks.

J. J. RODMAN, Secretary.

Hart.—The Hart County Medical Society met in open session in the Court House, Munfordville, July 5, 1910. The program, which was in the interest of Public Health, Hygiene and Sanitation, was rendered with credit in the presence of a large crowd, mostly teachers who were attending the Institute.

D. C. Donan, Jr. read a paper on "Preventative Medicine"; discussion by Drs. Hall and Nichols, Chandler, Craig and Strange.

J. Lee Sutphin read a paper on "Hygiene of the Mouth"; discussion by C. W. Meguiar and K. W. Hester.

C. W. Meguiar read a paper on "Oral Prophylaxis and the Inspection of the Mouths of School Children."

K. W. Hester gave a practical demonstration of the correct method of using the tooth-brush and requested all teachers to show same to their pupils.

Chasteen Hall made a speech on "School Hygiene."

J. J. Adams discussed "County Boards of Health and Their Relation to the Public."

On motion the papers of Drs. Hester and Nichols were postponed to be read before the Institute later in the week.

The resignation of Chas. K. Beck was read and accepted and a demit card given him. Adjournment.

D. C. DONAN, JR., Secretary.

Nelson.—The Nelson County Medical Society met at 11 A. M. in the Circuit Court room, in the Court House. In the absence of both the President and Vice President the Secretary called the meeting to order, and on motion B. E. Gore was elected President pro-tem. There were present: Drs. W. E. Grant, Health Officer of Louisville; J. C. Mudd and W. M. Hyatt, Springfield; J. J. Wakefield, Bloomfield; R. H. Williams New Hope; W. L. Heizer, New Haven; B. E. Gore, R. H. Greenwell, S. A. Cox, H. E. McKay, Guy Grigsby and Hugh D. Rodman, Bardstown.

Reading of the minutes of the last meeting was dispensed with. Dr. J. J. Wakefield read a most excellent paper on "Eclampsia," which will accompany this report.

Afternoon Session, Open Meeting.

W. Ed. Grant, of Louisville, gave an excellent and instructive talk on the germ theory, and its application to tuberculosis. He dwelt on the fact of its communicability and the great importance of burying or burning all discharges from a tuberculosis patient, and especially the sputa. He especially urged the people to assist

the Health Department and all health boards to keep all public and private places clean.

DISCUSSION.

Hon. J. A. Fulton: I am impressed with Dr. Grant's remarks. The germ theory is of great interest to me and everything along that line is of great public interest. The germ of cancer is now known, and bacteriologists are now studying to find a germicide that will destroy or kill this special germ if discovered cancer will be curable. All questions relating to the germ, its prevention and its destruction are of great interest and should be studied by everybody.

R. N. Cook: I was very greatly impressed with what Dr. Grant said, and now I would like to see results. Meetings and discussions are worth nothing without results. It has only been eight or ten years since ordinances prohibiting spitting on the streets were enacted in some of our large cities. Now if it is bad to spit in public places in Louisville, why not in Bardstown? I would like to see the Council of Bardstown pass an ordinance prohibiting spitting in public places, on the streets, in banks, lobbies and in this Court House. I move that said Council be asked to pass such an ordinance. (Motion carried unanimously).

W. L. Heizer: I want to add my mite to what Dr. Grant has said here. He wants to tell the people what these public meetings mean. Here he enumerated the death rate from five or six of the preventable diseases, and compared them with deaths of war and pestilence, and told those present that these meetings were to instruct them, to teach them how to prevent these diseases thereby to learn them how to live the full period allotted to them.

Mrs. Carrie Fulton: I have had my speech made by just four of the men who have preceded me. It has been so gobbled up by those who have been talking to you that you will not be able to recognize it as mine. General sanitation is the subject which was assigned to me. I understand that general sanitation means something of general good done by everybody, for the good of everybody. For instance suppose there are twenty families living here in close proximity and nineteen of these twenty houses are screened and the twentieth house is not screened, diseases will then be carried by flies both to and from the unscreened house, therefore it would be cheaper for the nineteen to screen the twentieth house and make that kind of prevention general, apply the Golden Rule, "Do unto others as you would have others do to you." Another most important step in general sanitation is the cleaning of our back yards; let all of us look into our back yards and see if they are as clean as the front yard. The front yard is generally in a tolerably good condition, so let us put the back yard in the same condition. Suppose I see under a microscope the mil-

lions of germs lurking in my back yard, and follow these same germs to a less fortunate neighbor, and here see them infect some member of his family, see that member sicken and die, and follow his remains to the cemetery, and here reflect that his death was caused by the unsanitary condition of my back yard, which could have easily been prevented. Won't such thoughts cause me and all others to be more sanitary. Individual sanitation with all is general sanitation, and we should all adhere closer to the Golden Rule. I suggest that the Commercial Club of Bardstown take up this matter of sanitation and offer a prize to be given the first of September to the citizen who has the cleanest and most sanitary back yard, such prize to be awarded by disinterested judges.

The purity of drinking water should be the subject of more attention. If drinking water is not good it should be boiled, but some of you, no doubt, will be like the old woman who when shown the millions of microbes in one drop of water, exclaimed: "Good heavens, I can't kill all those things and take them into my stomach, it would convert it into a cemetery," and the reply was, "You can have your choice, take them alive and convert your stomach into an aquarium or dead." "Oh! well, I prefer them dead, I could not stand all them things wiggling around in me." So boil your drinking water. We can add greatly to the health of any community by improving the quality of our drinking water.

I am sorry that I am not a stenographer. By not being one I have lost many good and useful things said by Dr. Grant and Mrs. Fulton. This was a good meeting and will be productive of good generally.

HUGH D. RODMAN, Secretary.

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth, with the following Doctors present: Barbour, W. H. Yelton, J. Ed. Wilson, Chipman, Clark, McKenney, Woolery, Brown, Hopkins, Nichols, Caldwell, Blackerby, Smith, Jett, Beckett, J. D. Northcutt, of Grant's Lick. The meeting was called to order by President Nichols, and after a reading in the Journal of the previous meeting and its adoption, we proceeded to the business of the day.

J. A. Caldwell presented the name of J. D. Northcutt to the Society, who wishes to become a member. Dr. Clarke made a motion that we suspend the order of business and elect him to membership by a unanimous vote. Carried. After a few reports of clinical cases we proceeded to the reading of papers and their discussion.

W. A. McKenney read a paper on Infant Foods and Infant Feeding.

S. M. Hopkins and others very agreeably, some not agreeing with the essayist on his radical

stand proprietary "baby foods," claiming that they sometimes get good results from some of them.

H. C. Nichols read a paper on Gastro Enteritis.

W. H. Yelton discussing, nearly every member of the Society had something to say in regard to the subject, which is a very interesting one.

N. B. Chipman read a paper on Cancer of the Stomach. This paper was to have been discussed by Caldwell, but he was called away. Dr. Chipman certainly did his subject ample justice, as he has had an unusual amount of experience in these cases. And his advice to the young doctors to make an early and positive diagnosis if possible, if they cannot, go to some one who can, as in the early diagnosis and treatment is there any hope of doing anything for the patient. Several members of the Society related their personal experiences with this class of diseases. This being the last subject for the day, we adjourned to meet one month from to-day. We had a fine attendance on this occasion, and all seemed to enjoy the papers and their discussion.

W. A. McKENNEY, Secretary.

Trimble.—Trimble Medical Society met in D. J. Calvert's, at Milton, Ky., on Monday, June 20, 1910. Present, Drs. Fisher, Contri, T. Calvert, T. W. McMahon, C. T. Harwood, Dr. McMahon presiding. The report from the committee on drugs was laid on the table.

L. G. Contri reported a case of partial inversion of the uterus after labor. The subject was well discussed. Society adjourned to meet again at Bedford, July 18, 1910.

L. G. CONTRI, Secretary.

Scott.—The regular monthly meeting of the Scott County Medical Society was called to order by the President.

W. S. McAllphine read an interesting paper, "Acute General Peritonitis," which was ably discussed by Drs. Johnson, Hartman, Foreman, Crutchfield, Allphine, Heath and Barlow.

The petition of Dr. D. B. Wilhoit, of Stampington Ground, was presented, and he was unanimously elected a member.

The Society on motion, resolved, that the organization of the Scott County Anti-Tuberculosis Society was a worthy monument for the prevention of this disease, and would co-operate heartily with the State and local societies of the same.

Those on the program for papers at the next meeting are Dr. Foreman, "Cholera Infantum," and Dr. Porter, "Insipient Tuberculosis."

E. C. BARLOW, Secretary.

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ORIGINAL ARTICLES.

PERIPHERAL OPERATION FOR TRIGEMINAL NEURALGIA.

BY AUGUST SCHACHNER, LOUISVILLE.

The neuralgias of the face are of two kinds—minor and major, each of which is attended with certain characteristics, namely, the major neuralgia or tic douloureux is almost invariably unilateral, whereas the minor is generally bi-lateral. In the minor, the first division is most commonly and frequently the only division that is affected. In the major neuralgia the first division is usually the last to be affected and frequently is never affected. The pain in the minor neuralgia is more or less continuous. In the major, the attacks of pain are paroxysmal and frequently with long intermissions. The progress, however, in the major is a steady one. The attacks increasing in severity and the intervals usually shortening in duration. The minor neuralgias are usually due to eye strain, cold, syphilis or inflammations of the frontal ethmoidal or sphenoidal sinuses. The causation of the major neuralgia is obscure, some believing it to be an ascending neuritis—many others rejecting this view and favoring the idea of central origin. Any disturbance of the fifth nerve from the mesencephalon to the foramina of exit of the nerve may produce the major neuralgia.

The operations for tic douloureux can be divided into three classes. The first—Operation upon the Gasserian ganglion, which are of two kinds, the Hartlev-Krause operation, also known as the anatomical extirpation of the ganglion, as in this operation the ganglion is actually removed, and the Frazier-Spiller operation or the physiological extir-

pation, which consists of the division of the sensory root posterior to the ganglia.

The second class consists of intra and extra-cranial operations, i. e., operations within the skull upon the divisions of the fifth nerve after they are given off from the ganglia and operations upon these divisions second and third after their exit from the cranium but at the base of the skull. These operations possess the undesirable feature that if the skull is opened it will be better to attack the ganglia, as this alone insures permanent relief, and the extra risk and disfigurement is hardly compensated when compared with properly performed peripheral operation which carries with it comparatively slight risk, practically no disfigurement, and about the same period of relief from pain. The same applies to extra-cranial operations that are performed at the foramina of exit beneath the skull. The third class or peripheral operations, while they do not effect a cure, or at any rate in only rare instances and when applied in the early stages of the trouble, have the advantage of being attended with a minimum of risk and with a freedom from pain lasting from one to three years and in rare instances, of permanent relief.

In performing a peripheral operation the Thiersch method of slowly twisting out the nerve is adopted. With small incision and the use of sub-cuticular stitches, selecting hair lines and wrinkles as the site of incision, no deformity should result. Some patients that will not submit to a major operation will submit to this, and some who have submitted to this operation, will more readily submit to the major operation upon the return of pain.

Miss S., 45 years, had been suffering periodically from tri-facial neuralgia for the

past seven years. It was always worst after being exposed to a mental and physical strain. The onset is attributed to the sudden news while in Europe of the death of her brother in the Philippines. The third division was principally affected, there being some pain in the second division, especially about the lip and the angle of the mouth. Recently, pain almost constant.

Operation.—Preliminary injection of morphia and atropine, nitrous oxide and ether anaesthesia, which produced a cyanotic state, requiring the use of oxygen. Chloroform was substituted for ether and the anaesthesia proceeded satisfactorily. The infra orbital and inferior-dental nerves were removed through external incision, the mental through an incision within the mouth. Operation almost a year without any return of pain.

Mrs. B., 61 years. Rheumatic. Neuralgia began twenty years ago. At first there were intervals of two or three months. These intervals became less frequent and shorter in duration. During the last eight or ten years she was never entirely free of pain, although she had frequent remissions. A Gasserian operation was advised but rejected, owing to the risks another surgeon had exaggerated to her. Trouble began in the second division. Pain near the ala of the nose. From the second division it extended to the third, and finally the first. Before the operation her appearance was miserable, indifferent to everything, huddled in an ill-ventilated hot room during the summer heat, afraid of draughts, afraid to converse, afraid to chew, and never taking any cold fluids. In the operation the supra and infra-orbital nerve, the inferior dental, and the mental nerve were removed. For three days following the operation, pain almost as bad, due to the traumatized central ends. On the fourth day the pain began to rapidly subside, and at the end of a week she was able to take cold drinks free from pain, and in every way a different individual. No return since August, 1909.

Mrs. T., 34 years. Mother of one child. Denied specific history. Two years ago had minor operation upon uterus by a local surgeon. Soon thereafter a nasal operation by a local specialist. Pain almost constant, more especially about the malar and temporal region above and below the eyes. At the time of operation, October 11, 1909, had paralysis of external rectus. The supra and infra-orbital nerve together with the temporal malar and auricular temporal nerves were removed, leaving her entirely free of all pain. Since the operation, eye symptoms have progressed, verifying somewhat the sus-

picion held before the operation, of the possible existence of intra-cranial growth in the region of the ganglia or fifth nerve

DISCUSSION.

Gaylord C. Hall: Some three or four years ago, shortly after Dr. Patrick, of Chicago read his paper on the injection of alcohol in trigeminal neuralgia, a case was submitted to me for examination. She had had this neuralgia for about five years. The pain was, at first, periodical, but finally became almost continuous. It was confined to the second and third divisions. She had had all her teeth removed, and had tried various other expedients for the relief of the pain, and had finally become a morphin habitue. I procured a needle and injected the second and third divisions after the method quoted by Dr. Patrick from two French observers, who had done a great deal of work along this line. I did not make any attempt to anesthetize the skin, because I thought the needle prick to anesthetize the skin would be almost as painful as the insertion of the needle itself. After about three days the pain was relieved, but recurred, several weeks later in the second division. I made another injection into the second division and the woman passed from my observation. I learned from her family physician, however, that the pain was entirely relieved and remained so for about eight months. I have not seen her since, but I judge that, if there had been any return of the pain, she would have come to me again, because I told her at the time that the relief afforded by the procedure would last only eight months or a year.

Jno. R. Wathen: There is very little to be added to Dr. Schachner's presentation of this subject. He has had an unusually large experience in this class of work, as compared with the rest of us in Louisville.

I wish to mention only two points. Dr. Schachner spoke of the disfigurement which follows the Gasserian operation. I fail to appreciate that point. I have seen this operation done and I had the pleasure of seeing a large number of photographs of these cases, as well as some patients in Dr. Cushing's clinic at Baltimore, and the site of the operation could hardly be detected.

Another point is that these women should all be examined for some tumor formation, possibly a malignant or metastatic condition in the brain. Spiller and others have called attention to this and it is worthy of consideration.

Fred L. Koontz: My experience along this line has been confined to a single case, which terminated very favorably. This patient was a woman 83 years of age. I experienced no difficulty whatever in getting the nerve out under chloroform anesthesia, and relief was complete. She lived for two years afterwards with no recurrence. Of course at that age, we can promise more permanent results than earlier in life.

It seems to me that the peripheral operation should be done in a good many cases in preference to the Gasserian operation. The latter is very difficult and dangerous, and I would hesitate to urge the patient to submit to it. On the other hand the peripheral operation is easy in the hands of a person accustomed to doing surgery, and leaves no scar.

Wm. C. Dugan: I am very much interested in this branch of surgery, because I am sure there is no class of patients that we are called upon to treat, that excite our sympathy more than these.

I was glad to hear the essayist advocate the peripheral operation as a primary measure, instead of the removal of the ganglion or cutting off the sensory root; I think it should be done in all cases, even though the three trunks be involved.

I do not know of any patients I have ever seen that looked the picture of despair more than some of these. A woman came into my office one day wearing a veil. Her face was dirty, her hair uncombed and she looked like a tramp; nevertheless, she was one of the most cultured women in this town. She told me, after operation that she had not washed her face in six months; that the application of water to her face brought on a paroxysm that was worse than death, and that she had gone until she was almost famished for water and starving for food, because swallowing would bring on one of these paroxysms. This woman was subjected to the peripheral operation and the last time I saw her some three or four years after operation she was free from pain and enjoying good health.

In regard to the method of operation, I make a longer incision than mentioned by Dr. Schachner. I believe we can do a better operation by placing the incision under the shadow of the jaw and exposing the nerve up to where it enters the ramus of the jaw, so we can take it out in its entirety rather than by making two small incisions as advised by Dr. Schachner. I will admit that, so far as cosmetic effects are concerned, the other method is preferable and, in young women, I would use the operation Dr. Schachner advises, but I have only one patient under 35 years of age—most of them are over 45 years of age.

There is another thing to which I wish to call the attention of those who are not in the habit of operating about this region. Say you have made an incision down through the bone. You will find the nerve and blood vessel in a kind of shell, as it were. If you will just break that shell after making your groove incision in the bone from a point opposite the entrance of the third division to the mental foramen, you will find the nerve and artery running together, and a great deal of hemorrhage can be avoided by lifting up the nerve without interfering with

the artery. I think the separation of the blood vessel from the nerve is a very important part of the technique; but, should you damage the artery when thus exposed, it can be easily secured and ligated.

Resection of the infra-orbital nerve is a very important operation. If the patient be a young woman and the appearance is a point to be considered I do not cut the infra-orbital arch, but in a man or woman who does not care particularly about the slight disfigurement, I find the nerve, and here I wish to emphasize what Dr. Schachner said about the size. The nerve is much larger than it is generally thought to be; we are looking for something smaller and may overlook it. After making the incision down to the infra-orbital arch, separate the muscle and turn it aside, and you will find the nerve on the line the essayist mentioned, from the notch above, and unless we have its location well in mind, we shall have much trouble in finding it. If there is any reason for not cutting this infra-orbital arch, it can be left; but, if not, simply take a chisel and cut the bone, leaving a notch down to the orbital foramen of the nerve, and tease out the nasal and labial branches. Then lift the eye up and catch the nerve far back in the very apex of the orbital cavity, lift it up, rotate it slightly and pull it out. In that way you get rid of the branches and do away with the fibres that run down to the incisor teeth, and I think this is important in the removal of the infra-orbital branch. Not infrequently we open the antrum of the upper jaw in removing the bridge over the infra-orbital foramen, but I have seen no bad effects follow.

B. F. Zimmerman: I would like to ask Dr. Schachner a question in connection with a case of this kind that I operated on last week. This patient has had, for something over a year, attacks of pain confined to the supra-orbital and infra-orbital branches. During the past few months, whenever she would have an unusually severe paroxysm, there was evidence of involvement of the lingual nerve not so much in the form of pain, but paresthesia, and a tickling sensation, as she expressed it, in her tongue. I removed the supra-orbital and infra-orbital branches and she has had complete relief ever since she recovered from the anesthetic. I would like to ask Dr. Schachner whether, in his opinion, in a case of this kind, the lower branch should also be removed.

Hugh N. Leavell: I do not know of anything that taxes the patience of the physician so much as the treatment of these cases. We can promise so little from medical treatment, and the condition is one which has caused a great many morphin habitues. I think the doctor ought to pay more attention to these patients and, if possible, refer them to the surgeon before they get into bad shape; in other words, at a time when

the peripheral operation may be a success. Frazier and Spiller, who have generally improved the operation for the removal of the Gasserian ganglion, recommend that the sensory root should always be removed, but to approach the Gasserian ganglion is a decidedly serious proposition, not only from the fact that the sinus may be involved, but it is fraught with a great deal of danger in the way of intra-cranial complications; in fact, it may produce meningitis. At Johns Hopkins last summer, I had an opportunity to see Dr. Finney do several peripheral operations for the relief of trigeminal neuralgia, and he always prefaced the operation with the remark that the patient would probably return to have Dr. Frazier do the operation for removal of the Gasserian ganglion, showing that they had very little faith in the peripheral operation in cases that had gone along for years and had become practically chronic.

The peripheral operation as he did it seemed to be very simple. In the little experience I have had with it I have not found it to be a serious operation, and I think it should be given a trial before approaching the Gasserian ganglion.

Dr. Finney did not use forceps, as Dr. Schachner recommends, and which may be of some advantage in doing the operation; he used a long, slender haemostat and when he got to the nerve he drew it out with a great deal of caution, as Dr. Schachner advocates. It is surprising what a long branch of the nerve can be removed in that way.

I think the peripheral operation should be tried first, and then, if the results are not satisfactory and the patient returns, removal of the sensory root can be done by the method advocated by Frazier and Spiller.

August Schachner (closing): wish I to thank the gentlemen for the discussion they have accorded this subject.

Injections of alcohol do not give as much relief as osmic acid, and the latter does not give as much relief as the peripheral operation. While the peripheral operation is not at all unsafe, still we recognize that any operation which necessitates anesthesia involves a risk, but the possibility of a cure in early cases and the reasonable certainty of relief for two or three years, justifies, in my opinion, the peripheral operation.

I think Dr. Wathen misunderstood me, I did not speak of disfigurement following the Gasserian ganglion operation; I said that when you attempt to divide the inferior maxillary nerve at the base of the skull, extra-cranially, you do not get much more of the nerve than by the peripheral operation and you do have considerable disfigurement. Of course, there is some disfigurement from the Gasserian ganglion operation, but it is comparatively slight and espe-

cially so with the procedure that Frazier and Spiller now use.

I thoroughly indorse what Dr. Dugan has said about the infra-orbital nerve. However, I do not catch the nerve quite so far back, because I do not think it is necessary and it may entail some little risk to the eye. By going at it in the proper way, we can get as much of the nerve as by grasping it far back in the orbit, underneath the eye.

The great advantages of the peripheral operation are, the slight risk involved, practically no disfigurement, the remote possibility of a cure and the certainty of affording relief for a period of from one to three years.

I never do much chiseling. I know that is a procedure that is well thought of by many men, but some of these are old subjects, and I am always afraid that, in chiseling about the jaw, I may cause a fracture that would prove very troublesome. By the use of the trephine we obviate any possibility of fracture and we get a good opening, and with a blunt hook, working carefully, we can get a good purchase on the nerve and twist out a good portion of it.

In reply to Dr. Zimmerman's question, I will say that, if this patient complained of much disturbance, I would be inclined to take out the inferior dental branch. It would be necessary to go very far back to get the lingual nerve. I do not know whether the usual plan of exposing the nerve would do any good. Perhaps one of the internal operations would give access to the nerve to a higher point.

Dr. Leavell stated that the Gasserian operation is not a small matter. I agree with him; it is **not** a small matter. I do not think that any surgeon, however experienced he may be, is justified in attempting a Gasserian operation until he has thoroughly schooled himself on that particular operation. No one can merely read about it and then do a successful Gasserian operation. That is the reason we have two classes of operators doing the Gasserian operation, one having a frightful mortality, and the other practically none. Frazier and Spiller report 300 cases with a mortality of less than five per cent. To be able to do a successful Gasserian operation, the surgeon must first rehearse all the steps and become thoroughly familiar with it on the cadaver. It is simple enough to expose the Gasserian ganglion; the real difficulty comes when you attempt to dislodge the ganglion, which is almost impossible.

Epidermidolysis Bullosa.—Having found the elastic tissue absent in 5 patients suffering from epidermidolysis bullosa, sections from all presenting practically the same histologic picture, Engmann and Mook feel justified in asserting this absence to be the etiologic factor of the disease.

NYSTAGMUS AS A SYMPTOM IN THE
DIAGNOSIS OF EAR DISEASES.

BY J. MORRISON RAY, LOUISVILLE.

I want to apologize before reading this paper for much that is to be said. The subject of diagnosis and treatment of purulent infections involving the so-called internal ear is one that has been written about quite a good deal in the last few years, due largely to the original work of two men, assistants in the Politzer clinic, Barany and Neuman. During the past summer I spent some time working in this clinic and observing both the method of diagnosis and the operation undertaken for the relief of these cases and what I have to say is largely based on the facts collected at that time.

The internal ear, the so-called perceiving portion of the mechanism of hearing being encased in the bony mass making up the petrous portion of the temporal bone, has long been *terra incognita* to the aural surgeon. The physiologists have tried to solve the mechanism of its action, with only partial success, but with what they have been able to work out, connected with the close observation of the clinician and the aural surgeon much has recently been elucidated with regard to its function, and thus light on the diagnosis of its diseases.

The internal ear is made up of three parts, the cochlea, the vestibule, and the three semi-circular canals, or taken together they are spoken of as the labyrinth. Recent experiments have about conclusively shown that the function of the cochlea is the perception of sound, while the semi-circular canals are concerned wholly in the preservation of the body equilibrium.

The relationship of these parts is as follows: The cochlea is the most anterior, its base rests against the bottom of the internal auditory meatus and its apex outward toward the inner tympanic wall. The vestibule is an irregular elliptical cavity communicating anteriorly with the cochlea, posteriorly with the semi-circular canals. The semi-circular canals, three in number, lie behind the vestibule and are designated as the superior, the posterior, and the horizontal or external. These names indicate to a certain extent their locations. The convexity of the superior produces an elevation seen on the upper surface of the petrous bone. The external or horizontal forms a prominence on the inner wall of the tympanic cavity, corresponding with the aditus ad antrum, just posterior to the canal for the facial nerve and is a well-known landmark to those familiar with the so-called radical mastoid operation, and this point is recognized as the spot where

most often the canals are invaded by infections from chronic purulent middle ear disease and also the point where injury is most liable to occur in the operation for opening the mastoid antrum.

Each of these osseous canals begins with an enlarged opening on the back wall of the vestibule. These dilatations are known as the ampullae. The canals return to the back wall of the vestibule by only two openings, the superior and posterior uniting before entering the vestibule. The bony framework thus formed contains the membranous labyrinth.

The entire internal ear space is filled by fluid. That contained in the membranous labyrinth is known as the endolymph and is in direct communication with the dura by way of the aqueductus vestibuli. The fluid surrounding the membranous labyrinth is known as the perilymph, and is in communication with the sub-arachnoid space by way of the aqueductus cochleae.

The auditory nerve divides into two parts at the bottom of the internal auditory canal, one goes directly into the base of the cochlea, the other enters the vestibule and after supplying two parts of the membranous vestibule, the sacculus and utricle, go to the ampullae of the membranous semicircular canals, where they terminate in the end organs known as the vestibular hair cells. From these organs the stimuli set up by the movements of the endolymph pass by way of the vestibular portion of the auditory nerve into the medulla, thence to Deiter's nucleus. From this nucleus fibres radiate to the nucleus of the motor nerves of the muscles of the eye on both sides and to the motor neurons of the spinal cord on both sides. Through the first of these paths the ocular movements of vestibular nystagmus are induced and through the second is brought about the vertigo or inco-ordination of gait which characterizes excitation of the labyrinth apparatus.

Nystagmus is the term applied to any involuntary oscillatory movement of the eyeballs. We find it in two forms. First, Eye nystagmus, in which the velocity of movement in one direction is equal to that in the opposite direction; in other words, it consists of a series of to and fro movements equal in extent. These movements may be horizontal, vertical, or rotatory. This form is found in those with defective vision due to eye disease, either a congenital defect, such as albinism or such diseases, in early life, as have resulted in opacities of the cornea or lens. When nystagmus develops in adult life it is generally occupational, as in so-called miners' nystagmus.

Aural nystagmus differs from that due to eye defects in that the oscillations are un-

equal, one movement being slow, the other rapid. It has been described as consisting of two phases. A slow deviation of the eyeball from its position followed by a rapid twitch back to the original position. The nystagmus is said to be directed toward the direction of the short quick movement. For example, when the eye deviation is toward the left and is caught back quickly to the right, we say the nystagmus is directed toward the right. These oscillations are exaggerated when the eyes are turned in the direction of the quick short movement and are lessened when the eye is turned toward the slow movement. Therefore we say the nystagmus is to the right or left depending on the direction of the quick movement. These movements may be horizontal, vertical, or rotary, depending on the location of the irritation in the semi-circular canals.

In 1892 Ewald of Strasburg performed his classic experiments on the ears of pigeons. He found that if he exposed the semi-circular canals in the pigeon and then removed the bony wall that he could stimulate the nerve endings in the canalicula by setting the endolymph in motion and thus produce head and eye movements. These varied in character according to the canal chosen, and the direction of the head movement depended on the direction of the current in the endolymph.

These experiments of Ewald on pigeons have been confirmed several times in the human subject in cases where there was a fistula in the bony horizontal semi-circular canal as follows. If the external auditory canal be closed air tight by the nozzle of a Politzer air bag and the air condensed in the ear, in a case of chronic suppuration and you get horizontal nystagmus, you will find that there is a dehiscence in the bony wall of the canal and that you have started a current in the endolymph toward the ampullae, thus nystagmus to the same side. If you exhaust the air from the canal you produce an endolymph current away from the ampullae and thus produce horizontal nystagmus to the opposite side.

According to Barany vestibular nystagmus can be induced in three ways: by rotating the patient; by syringing the ear with hot or cold water, and by galvanism.

Rotation Nystagmus.—If one be placed in a revolving chair and slowly turned there will follow a vertigo due to stimulation of the end organs of the vestibular nerves in the semi-circular canals and if the eye be immediately examined after the rotation there will be found a typical labyrinthine nystagmus. This nystagmus varies in character and direction depending on the position of the head and the direction of the rota-

tions. With the head in the erect position one is rotated from left to right, the movement affects the endolymph in the horizontal canals. At the beginning of the rotation the endolymph in the right canal by virtue of its fluid inertia flows toward the ampullae. In the left canal away from the ampullae. If the rotation is continued the endolymph soon begins to rotate in the direction of the turning and if the head is abruptly stopped the fluid continues to flow for a brief period in that direction. The nystagmus during the turning and that immediately after are in opposite directions, but that which occurs during turning is of no practical use to us because it cannot be closely observed, while that after turning can be carefully studied and measured. The greatest amount of nystagmus is produced by the fluid flowing toward the ampullae. Therefore after rotation to the right the flow of the endolymph is toward the ampullae in the left ear, thus nystagmus to the left. If we wish to induce movement in the superior or posterior canal it can be done by altering the position of the head. For instance if we incline the head 90° to the right shoulder and then rotate, we produce a vertical nystagmus by inclining the head forward or, backward, we induce a rotary nystagmus. Rotation stimulates both labyrinths. The amount of stimulation is, however, unequal because the greatest amount of reaction occurs in that labyrinth in which the endolymph is flowing toward the ampullae.

Caloric Nystagmus.—The caloric test consists in injecting hot or cold water gently into the external auditory canal from a reservoir. Politzer asserts that water of the same temperature as the body causes no vertigo and therefore no nystagmus. Barany observed if water of a temperature below that of the body was used, say about 70° F., vertigo and nystagmus were produced, the nystagmus being to the opposite side. If water above the temperature of the body, say about 110° F. was used, nystagmus to the same side was induced. He explains this on the theory that the temperature of the endolymph is influenced by the temperature of the water, causing it to flow toward or away from the ampullae by changing from hot to cold water.

The caloric test from the fact that it stimulates only one labyrinth at a time is probably the most valuable of all the tests for vestibular reaction. It is easily applied, requires no elaborate apparatus and may be used on a patient in bed or in the recumbent position. It is readily carried out by using a Hartman canula, attached to a large Politzer bag. The cannula being passed well down in the ear canal and by using sterile

water or equal parts of alcohol and water we lessen the danger of carrying infection to the deeper parts of the ear.

Galvanic Nystagmus.—If the anode or positive pole of a galvanic battery is applied to the ear over the mastoid or just at the base of the tragus, and the kathode held in the hand and a current of 10-15 milliamperes is passed a nystagmus is produced to the opposite side. If the electrodes be reversed the nystagmus will also be reversed. That is, the quick movement of the eye is to the kathode on the ear, the slow towards the anode on the ear.

These three tests, the rotation test, the caloric test and the galvanic test, induce vestibular nystagmus in normal ears and the phenomena that I have described are known as the normal or induced reactions.

We must see of what value they are when applied, as it were, to pathological conditions.

According to Barany the same laws govern the spontaneous nystagmus of labyrinthine disease. To condense we can say that hot water irrigation, kathode stimulation, and irritative lesions all give nystagmus to the stimulated or diseased side, while cold water irrigations, anode stimulations, and destructive lesions in the labyrinth all give nystagmus to the opposite or sound side.

A lesion in any part of the vestibular tract from its end organs in the ampullae of the semi-circular canals to its nerve centre in the medulla may cause spontaneous nystagmus, by the upsetting of the normal balance of power between the two sides. The normal stimuli from the diseased side being suddenly withdrawn, those from the healthy side predominate in the nerve centers. Since the vestibule and semi-circular canal from their anatomical locations are most exposed to the destructive effects of purulent infection in chronic middle ear disease they are the parts most often involved and they are the most common route by which infection travels to the meninges and the cerebellum. Neuman states that over 80% of cases of intra-cranial abscess originate from chronic suppurative ear disease.

We find when the labyrinth becomes involved that the character of the infection can be divided into three groups.

In case the canals are not destroyed, but the nerve endings are irritated there is produced an intermittent spontaneous nystagmus to the diseased side which is known as the "Fistula" symptom.

Cases where the labyrinthine reaction is totally destroyed, in the early stages there will be strong nystagmus to the sound side.

The patient is unable to stand up and lies in bed turned on the sound side because in this way the vertigo and nystagmus are lessened. No reaction is obtained by the caloric test.

Cases where the labyrinth has been slowly destroyed, producing no irritating symptoms, none of the methods of exciting the labyrinth will produce a reaction.

The diagnosis of cerebellar abscess in suppurative ear diseases is materially aided by the application of the methods of producing nystagmus that I have described. Barany states that if one has to deal with a case of chronic middle ear suppuration without fever, with profound deafness and no induced nystagmus by cold water syringing but strong spontaneous rotary nystagmus to the diseased side the diagnosis of cerebellar abscess can be confidently made for the following reasons. If the patient does not react to syringing with cold water the labyrinth must be destroyed and he can have spontaneous nystagmus to the sound side or no nystagmus. Thus spontaneous rotary nystagmus to the diseased side proves that this nystagmus is produced by an intra-cranial complication in the posterior fossa and as there is no fever, no symptoms of meningitis, there must be a cerebellar abscess.

The application of these tests to cases of non-suppurative diseases of the perceptive portion of the organ of hearing is now being investigated by the Vienna School and their findings may prove to be of value to us in case of oto-sclerosis, syphilis of the internal ear and the profound deafness following cerebro-spinal meningitis.

Again these tests are of value in testing the ear of malingerers. Say after accidents and head injuries, a patient complains of unilateral complete deafness. If a vestibular reaction cannot be obtained, the patient's statement can be confirmed. The vertigo and ataxia are also of a definite kind, the tendency to fall being in opposite direction to the quick movement of the nystagmus.

Hence the very important fact is brought to light that it is often possible to decide whether a vertigo or ataxia is due to disease of the ear or whether it is necessary to seek elsewhere for the explanation of a symptom so often deceptive and difficult to interpret from the standpoint of general medicine.

While fully conscious that what I have said merely touches the fringe of the subject, I feel that when it has been more fully studied and its limitations understood it will prove of value as an aid to diagnosis.

DISCUSSION.

Adolph O. Pfingst: I have listened to Dr. Ray's paper with a great deal of interest, and I think the Society is indebted to him for bringing up this live subject. Personally, I have never seen spontaneous nystagmus in a case of ear disease. However, I have been very much interested in the subject. It seems to me that the benefits derived from a study of nystagmus in connection with ear disease are two-fold. In the first place, it has given an impetus to the study of the physiology of the semi-circular canals and vestibule and as a result we are now nearer to a knowledge of the physiological functions of these parts which have heretofore been more or less obscure. In the second place, it has opened up an avenue for the otologist to reach the deeper parts of the ear in an operative way.

One fact that has impressed itself upon me is the difference in the significance of nystagmus brought about early and late in inflammatory conditions. My understanding is that early nystagmus brought about by inflammatory conditions of the middle ear, is more or less due to peri-labyrinthian conditions, while nystagmus later in the disease is an indication of deeper conditions. It seems too, that in simple inflammatory or irritative conditions, the nystagmus goes to the same side, but that if the inflammation or suppurative condition gets into the deeper parts of the ear, we have loss of these functions, and the nystagmus, if any is brought about, is to the opposite side. These advanced cases also usually have loss of hearing, and, taking it for granted that the disease process has gotten into the semicircular canals, loss of equilibrium, and other symptoms.

I came here to hear the doctor's paper rather than to discuss it. It is an interesting subject and one that is going to open up a large field for the otologist.

Harris Kelly. In common with Dr. Pfingst, I wish to congratulate the Society upon hearing a paper of such excellent quality.

I was particularly impressed by the physiological factors involved. As practitioners of medicine, we are somewhat prone to overlook the association of nerves, especially the anastomosis which the nerves have with each other, so that symptoms apparently developing from the nucleus of any nerve may be co-ordinated or associated with others; for instance, the eighth nerve, passing in through the internal auditory meatus and then going backward through the fibrous dura, around the superior olivary body and into the base of the fourth ventricle, anastomoses, at its deep origin, with the nuclear origin nystagmus is the close relationship which may exist between the original cells; so if you have inflammation of the auditory nerve, or inflammation of the vestibule, you may, at the same time, have inflammation of the fourth nerve,

which would give you oscillation due to reflex lack of co-ordination in the fourth nerve.

J. Hunter Peak: I do not know anything about nystagmus, but I know there is something about the mechanism of the ear that has to do with equilibrium. I saw this very nicely demonstrated in a man who attempted suicide by shooting himself beneath the ear, the bullet passing directly through the ear, destroying it. This man made a recovery, but he had to learn how to walk again. As well as I remember he always fell forward or backward, rarely ever to one side, and he could not walk in the dark without holding to something. In the light he could walk fairly well. This has been thirteen or fourteen years ago and that man can hardly get around now in the dark without holding to something.

Curran Pope: This paper has certainly been very instructive to me, and I feel well repaid for coming here to hear it. It is indeed but another demonstration of what investigation will ultimately show in regard to the now so little understood question of equilibrium. Of course, we all know that equilibrium is maintained by a cerebral mechanism made up by the correlation of sensations coming from the body structures, from the eye muscles and from the ear. It is possible that this Vienna School will, in a little while, give us an explanation of the entire mechanism by which equilibrium is maintained.

Nystagmus occurs outside of ear disease, and is an almost constant symptom in disseminated sclerosis. It seems to me, therefore, that the general practitioner and incidentally the neurologist, who is unfitted for making these more delicate tests that Dr. Ray spoke of, can at least determine, by the relation of symptoms, what diseases ought to be excluded. If we have nystagmus we must not at once conclude that we have a disseminated sclerosis, or a cerebral tumor; in other words, nystagmus is of value as a diagnostic aid only in conjunction with the symptom complex that may be present. If we have nystagmus with the classical symptoms, in the eye and otherwise of a tumor that may be shown by localization to be at the base of the brain, or, if we have the classical symptoms of disseminated sclerosis, then we are to make our diagnosis on the basis of the symptoms that go with the nystagmus.

Personally I have never seen one of these cases. This subject is absolutely new to me. I recently read a review of the work being done in Vienna but I have had no personal experience. However, I shall watch for it; maybe I have overlooked it, and I shall endeavor, when I do find symptoms, to differentiate sufficiently to say which cases belong strictly to the domain of otology and which belong strictly to other domains by their associated symptoms.

Jno. J. Moren: This is an entirely new sub-

jeet to me. I searched through all the books I have been trying to find something on the subject, and the only thing I found was an article on vertigo, by William Washington, in the last number of the Archives of Diagnosis, who makes the statement that nystagmus sometimes follows ear disease and accounts for the condition by the association of the center of the acoustic nerve with the motor nerve of the eye, through the posterior longitudinal bundle.

J. M. Ray (closing): When my attention was first called to this subject, I really did not know there was any difference between the oscillation of the eye in eye disease and that in ear disease. The character of the oscillation is one of the points that we must watch in the diagnosis of of ear conditions. Nystagmus in eye disease is the same in every direction; on the other hand, nystagmus caused by irritation of the ear is slow in one direction and quick in the other.

Barany, of Vienna has a lot of apparatus that he experiments with, and he had a platform made on which he could rotate with the patient and watch the nystagmus during rotation. He found that in rotation to the right, there was nystagmus to the right, but when he stopped then nystagmus was to the left. He drew the conclusion from this that nystagmus is always in the direction of the ampullae; that the fluid in the ampulla changes the direction of the wave of the hair-cells, and that when they wave in one direction, nystagmus occurs in that direction.

In regard to the point Dr. Pfingst touched upon, I will say that, with the first, or irritating symptoms, you get nystagmus to the same side. If the infection occurs and the cells are destroyed, after three or four days the nystagmus changes to the opposite side. Then after a few days compensation takes place and equilibrium is re-established. Then, if this infection goes along and septic material passes in through the internal auditory meatus, into the posterior fossa, and you get a cerebral abscess, the nystagmus goes back to the diseased side again.

CESAREAN SECTION.

By J. GARLAND SHERRILL, LOUISVILLE.

In presenting the subject of Cesarean section before this body, many of whose members are expert obstetricians and some of whom are no doubt firmly impressed with the value of the older and so-called conservative methods of obstetrics, I do not wish to be considered as opposed to the proper employment of the latter measures. This subject, however, has been very much to the front among the discussions in gynecological and obstetrical societies during the past few years, and my object is simply to draw attention to the value of the Cesarean operation

in certain cases in which it is well indicated both as a means of saving the life of the child and the mother and as a means for prevention of many disagreeable sequelae of a difficult labor, both in the mother and the child.

While my experience with this operation has been limited to four cases (which will be herein reported) I am absolutely assured of its value and of its safety if performed early and not delayed until after the mother is exhausted and the life of the child is destroyed.

In presenting the claims of Cesarean section the marked advance in obstetrical methods are not to be overlooked in estimating mortality reports; those of skilled operators in either department must be compared. My object in bringing up the subject for discussion is to call your attention to the indications for a Cesarean operation, to mention its dangers and contraindications; to urge its early employment when indicated before the patient is exhausted and to compare it with all other obstetrical measures and especially with vaginal hysterotomy, pubiotomy and hebosteotomy. Just here I wish to be placed on record as in favor of the employment of simple measures in preference to operative steps whenever they meet the same indications without increase of mortality to the mother or child and without increase to the morbidity of either.

In advising abdominal section for the relief of obstetrical difficulty it is due the patient that the indications for such procedure be evident. My advice to practitioners meeting with any difficulty in obstetrical cases is to call for the best obstetrician to be obtained and when after careful study of the case the consultants determine that the indication for operative interference is present to employ it promptly. For many years non-interference was urged in obstetrical teaching; even now in many cases it is good advice if accompanied with patience. The accoucheur should examine his patient carefully, if possible during the latter months of gestation, certainly when called during labor, and form an opinion as to possibility of natural delivery and conduct the case according to his findings, promptly abandoning efforts to deliver in the usual way if conditions develop to show that method to be hazardous to the mother or child. One naturally expects the trained abdominal surgeon and gynecologist to strongly favor operative measures in preference to accouchement force, etc. On two occasions, however, I have been called to operate and believing the children could be safely delivered advised the obstetrician, a very competent man in each case, to depend upon forceps. In both of these cases the children were stillborn, and in

one the mother died as result of infection, probably occurring through very extensive laceration of the soft parts, resulting in great sloughing. This case and one of craniotomy have convinced me that a Cesarean operation is much safer and better than a very tedious and difficult labor, and I do not believe with our present knowledge that a craniotomy is ever indicated, especially with a living child. There is possibly one exception, namely, the retention of an aftercoming head with a dead child. The danger of damage to the maternal soft parts from the irregular crushed skull is very great and other and less repulsive means should be advised.

In considering this question it is well to discuss the comparative risk of any method of delivery, first to the mother and second to the child. Not only must the immediate mortality but the morbidity of each be considered. Miles F. Porter, in an exceedingly valuable article upon this subject before the Southern Surgical and Gynecological Association, in 1908, gives a very careful study of both the mortality and morbidity of mother and child. It is very difficult to place in actual percentages the estimates of mortality and morbidity in these cases, therefore the figures usually submitted are relative and not absolute.

Porter says that "forceps, version, and the induction of premature labor, according to Zinke, result in maternal mortality of 10 per cent. and a fetal death rate of 50 per cent. Reiman says that with proper precautions the high application of forceps results in no maternal mortality and in a fetal mortality of 10 per cent." "In the Breslan clinic the high application of forceps shows no maternal mortality which could be traced directly to the use of the forceps, but a fetal mortality of 31 per cent. Induced labor in this clinic resulted in a maternal mortality of zero and a fetal mortality of 28 per cent. According to Lusk the fetal mortality in 'slightly contracted pelvis' with spontaneous birth is 13 per cent., while Playfair puts it at 20 per cent., and Schroeder says that if the contraction is enough to indent the head of the child 50 per cent. will die." Porter also mentions the claims of Leisenwitz that in cases of normal pelvis the fetal mortality following the use of forceps is 14.28 per cent., and that 73.6 per cent. of the mothers were injured to such an extent as to require suture, including injuries to perineum, bowel, and bladder.

Porter, in summarizing the figures which he quotes, shows that the average maternal mortality resulting from high forceps, version, induction of premature labor and expectancy as given by fifteen authors is 1.14 per cent.,

and the fetal mortality as 17.3+ per cent., while from these same figures we find that there was serious maternal morbidity in 42 per cent., and a serious foetal morbidity of 12.2 per cent., not including the fractures of the skull in Leisenwitz's figures.

In summarizing the figures collected from thirteen operators 126 cases of elective Cesarean section done on uninjured, unexhausted women Porter finds a maternal mortality of 1.58 per cent., for Cesarean section as compared with a mortality of 17.3+ per cent., for high forceps, version, etc., while the maternal morbidity in Cesarean section is 12.69 per cent. as compared with maternal morbidity in high forceps, version, etc., of 42 per cent., and a fetal morbidity in Cesarean section is nil as compared with fetal morbidity, in many instances worse than death, of 12.2 per cent., excluding the skull fractures in Leisenwitz's cases. Zinke says (page 9, volume 21, 1908, Transactions of the American Association of Obstetricians and Gynecologists) "In spite of antiseptic precautions, the maternal mortality of the high forceps in clean cases remains 4 per cent.; of prophylactic version, 2 per cent.; of premature artificial labor, 5 per cent. The fetal mortality of the high forceps varies from 40 to 50 per cent.; prophylactic version, 25 per cent., and the fetal mortality of premature artificial labor does not fall below these figures (Krull and Baisch)."

Zinke, in discussion of Porter's paper, says that the "new therapy" of narrow pelvis developed by Cigil, Pinard, Zweifel, Doederlein, Bumm, Buerger, Kroenig, and many other European authorities on obstetrics, has secured for them in a series of more than 2,000 cases of labor complicated with narrow pelvis, 80 per cent. of spontaneous labor with living children and without injury to the mother; 15 per cent. of the cases were delivered with the aid of hebosteotomy, and only 5 per cent required Cesarean section; all this with a maternal mortality of 0.1 per cent. If we compare the maternal as well as the fetal mortality of the new therapy of narrow pelvis, namely the expectant method, hebosteotomy in moderately contracted pelvis, and Cesarean section only for positive indications, with the present mortality of the conservative Cesarean section, and the so-called compromise operations (the induction of premature labor, prophylactic version and high forceps) we cannot fail to realize that a great forward step has been made in the practice of obstetrics.

The results claimed by these authors for pubiotomy and hebosteotomy are certainly deserving of consideration and it would seem to us to lessen to a large degree the indica-

tion for the so-called operations and also for a Cesarean section. Neither obstetricians, gynecologists nor abdominal surgeons in this country have adopted very generally the operations as advised by the Europeans, but have inclined rather strongly to the employment of Cesarean section in case compromise operations were not indicated, basing their preference largely upon the ease of accomplishment of delivery by abdominal section, the rapid convalescence, the rarity of serious complications, the low maternal death rate and the very favorable results to the child. The objections to hebosteotomy are based chiefly on the small amount of enlargement to the pelvis that it provides, the danger of tearing the soft parts and the infection which is likely to follow its use, and which in many cases cannot be prevented. Hebosteotomy enlarges the transverse diameter of the pelvic inlet on the average of 4 to 5 cm., and the anterior posterior diameter 1 to 1.5 cm. The increase of the pelvic outlet amounts to about 2 cm., in transverse and 0.5 cm., in the anterior posterior diameter.

Pfannensteil claims that since a conjugata vera of 8.5 cm. is necessary to the passage of a normal child without serious risk, it follows that with a normal child the pelvic enlargement will be sufficient only when the conjugata vera is 7 cm., or more. In a flat pelvis in which the inlet is contracted while the outlet is large, one can go somewhat further and employ the operation where the conjugata vera is 6.75 cm.

We may conclude, therefore, when the pelvis is contracted to a greater degree than this or when the head of the child is larger than normal that Cesarean operation is indicated rather than hebosteotomy. Personally we scarcely feel justified in giving an opinion upon the value of hebosteotomy, but considering the objections mentioned above would be inclined to favor Cesarean operation in all cases where the child cannot be delivered by the ordinary obstetrical methods. The indications for the Cesarean operation are:

(1) Contracted pelvis, 7.5 cm. to 8.5 cm., in which premature birth cannot be safely employed. It is the operation of choice over the latter method in primipara owing to the tedious labor and rigidity of the soft parts, which would jeopardize greatly the life of both mother and child.

(2) Disproportion of the child's head to pelvis normal or but slightly contracted.

(3) Carcinoma of the cervix with rigid os.

(4) Tumor, either fibroid or ovarian or springing from the pelvic wall, so placed as to render delivery impossible or dangerous. The latter indication is rare, for many cases

are recorded where growths have been removed in the latter months of gestation both from the uterus and ovary and delivery normally accomplished at full term.

(5) Placenta praevia centralis at or near term with a living child. When hemorrhage occurs early during the last months of gestation the risk to the mother of delay is too great to attempt to carry the case to term.

(6) Rupture of the uterus.

(7) Death of the mother with living child.

(8) Eclampsia at or near term, with living child and with rigid soft parts.

Miles Porter goes so far as to say, "Given an elderly primipara at term with a vigorous child and a normal pelvis, but with rigid soft parts, who is unusually sensitive to pain, whose nervous equilibrium is unstable and whose physical condition is below par, Cesarean section done before labor has begun or at its very beginning offers a better chance of life and health to both mother and child than the so-called conservative operations." This claim, however, seems to us to be more radical than is generally accepted by the profession, although it is not entirely beyond reason. With the death of the child a very important indication for Cesarean section disappears.

DANGERS OF CESAREAN SECTION.

(1) Hemorrhage: At operation is so readily controlled that it becomes a negligible quantity.

(2) Sepsis: In competent hands (and no others should attempt the operation) can be avoided except when carried into the uterus during prolonged efforts to deliver through the vagina. Many advise the Porro operation in case the attendant believes infection is already present. In the majority of cases I should oppose Porro's operation as being more risky and sacrificing the uterus.

(3) Ileus and adhesions, which should be very rare sequelae.

(4) Hernia: The length of the scar will necessarily make these patients liable to hernia, but not more so than follows the operation of abdominal hysterectomy.

(5) Rupture in subsequent pregnancies: This is undoubtedly a rare sequel. Porter says "Considering the sparsity of cases of rupture of the uterus reported as following Cesarean section and myomectomy and the results of muscle suture in general, the conclusion seems warranted that the danger is so slight that it may be disregarded, save in cases of unusual obstruction to the passage of the child due to narrow pelvis, large child, or other cause, in which case subsequent pregnancies should be prevented by removal of the tubes, or a Porro operation, or the woman shall again be delivered by Cesarean

section, as the exigencies of the case demand."

"In Davis' review of the literature of uterine rupture in *Progressive Medicine* for September, 1908, appear abstracts of articles from four reporters, giving their personal experience in 29 cases, and from a paper by another in which the statistics of 97 cases are given, and in no case is a previous Cesarean section given as a cause of rupture."—(Porter).

The relative merits of the classical Cesarean operation and of vaginal hysterotomy in the treatment of placenta praevia centralis must be considered before we reach the conclusion of this subject. Many very prominent men both in Europe and America are strong advocates of vaginal section in certain cases of placenta praevia with long rigid os, such as seen in women of 30 or 35, especially primiparae. This operation is probably indicated in the case of placenta praevia where there is reason to believe the child is dead, otherwise we should prefer the operation of celiohysterotomy because delivery is more easily accomplished without the danger to the soft parts. There is no question of the value of this operation over the vaginal in contracted pelvis. In carcinoma of the cervix it is probable that in a few cases the vaginal operation may be preferred.

Sellheim has advocated the method of suprasymphyseal Cesarean section performed extraperitoneally in the treatment of placenta praevia. H. Freund reported two cases done in this way and was favorably impressed with the ease with which operation could be performed and with its results. We fail to see the necessity of tearing the peritoneum away from the abdominal wall when it is so much easier to reach the uterus directly through the abdominal cavity and certainly the former is more dangerous.

CASE I.

Mrs. W. H., white, age 21, primip., April, 24, 1902. Apparently well developed and in good condition. Labor began on the 23rd, at 5 P. M., L. O. A., position of vertex. Drs. Humphrey and Tuley, after careful examination, had concluded that the patient could not be delivered of a living child in the normal way. Her conjugate diameter was found to measure 7 cm., and the head failed to engage at the superior strait. The cord was prolapsed, pulsating, and could not be successfully replaced, and Cesarean section was considered to be indicated. After a thorough preparation of the abdomen under chloroform anesthesia, administered by Dr. Humphrey with the assistance of Dr. Tuley, I performed this operation. The abdominal incision was made at 10:15 and extended

above the umbilicus. The uterus had been delivered from the abdomen and a rubber tube thrown loosely around the cervix. At 10:17 the child was delivered through the uterine incision, and the hemorrhage, which was very slight, readily controlled. The placenta, which was placed on the left side of the uterus, was removed with the membranes, and the operation was completed as described below. The case with which the operation was performed was very noticeable. Union occurred by first intention in eight days, and convalescence was uninterrupted. Drs. Varble and Richardson rendered valuable assistance in resuscitating the child, which was somewhat asphyxiated. Both mother and child left the infirmary in good condition.

CASE II.

Mrs. T., white, age 42; multipara; was seen April 18, 1903, with Dr. Ferguson. She was a little more than seven months pregnant and had had one or two very slight hemorrhages. Examination revealed a placenta praevia centralis; pains were not active and had to control hemorrhage with a tampon. The morning following the pains were sufficient to force out the tampon and hemorrhage recurred. This left no alternative but to rid the uterus of its contents. After the case was carefully explained, the family decided to accept Cesarean section rather than version and rapid delivery. The child was living. This operation was performed at the patient's residence, and the mother made an uninterrupted recovery. The child lived for a very short time.

CASE III.

Mrs. C., white; 29 years of age; referred by Dr. Moreman January 8, 1904. Had a craniotomy performed at former labor five years previously. Labor began at 5 A. M., January 7th, with the head only slightly engaged at the superior strait on the morning of the 8th. Promontory of sacrum readily reached by tip of the index finger, 10 cm., conjugate to soft parts; 7 cm., inside.

Drs. Moreman and Tuley agreed that a living child could not be delivered. Incision began at 11:03; abdomen opened at 11:04; child delivered at 11:04½; placenta removed at 11:06½; very slight amount of liquor amnii. Uterus closed with deep silk suture and two superficial silk sutures supplemented by a continuous catgut of peritoneum. Entire operation complete in 40 minutes. Baby cried in six minutes after birth. Both recovered.

CASE IV.

Mrs. H., white, age 36; saw her at 5 A. M., February 24, 1910, with Dr. Kiefer. History of having two stillborn children with great

difficulty in labor. At four o'clock on the 23rd labor pains began. Membrane ruptured at 10 P. M. Drs. Kiefer and Moreman had attempted by high forceps operation to engage the head at the superior strait but were not successful. I applied the forceps and found the head would not engage, although the os was well dilated.

Patient was removed to the Norton Infirmary and under chloroform anesthesia a very large child was delivered through the abdomen. Time of delivery three minutes; time of operation 27 minutes. The child was cyanotic when removed, the amniotic sac contained considerable meconium. I am indebted to Dr. L. H. Long, who resuscitated the child with considerable difficulty. The child weighed 10½ pounds net; measurements of the head were 17½ cm., in occipitomenal diameter; 17 cm. in the suboccipitofrontal diameter. The position was one with brow pointing to the left acetabulum and the occiput trying to engage at the right sacro-iliac synchondrosis.

Maternal measurements: Posterior spines, 23 cm.; anterior spines, 28 cm.; iliocrest, 30 cm.; trochanters, 35 cm.

DISCUSSION.

Henry Enos Tuley: Dr. Sherrill has very properly laid stress upon one point in particular. In the consideration of indications for Cesarean section; that is the great risk to which the patient is subjected when extensive attempts at forceps delivery are made. I believe that ill-directed attempts at forceps delivery are productive of a great deal more damage than could possibly ensue from a Cesarean section done at the proper time. I have never seen a pubiotomy or a hebosteotomy, but my conception of those operations is that they are fraught with a great deal of risk because of the damage that may be done to the soft parts, and, especially during convalescence, because of the possibility of lack of union from the fact that the tissues are apt to get in between the bones, and convalescence may be delayed very greatly. The patients get up much more quickly after a Cesarean section, properly done, and I think the risk is very much less.

The essayist concludes that, after the death of the child, the indications for Cesarean section are not so great. I think Cesarean section, if properly done and not delayed too long, entails a good deal less risk to the patient than craniotomy. Craniotomy, it seems to me, is one of the major operations. If the child is very large, the difficulty of removal of the child without dismemberment, or even with dismemberment, is very great indeed, and I think Cesarean section offers more hope for the mother than craniotomy.

I think the indication for Cesarean section in placenta previa, especially centralis, or even lateralis, is very decided, and I would advocate operation in a case of that sort. If the patient is seen early enough and the operation is one of election rather than of necessity, I think the results are decidedly better than if operation is delayed. The mortality is always increased by delay and the sooner we can turn such cases over to the abdominal surgeon, the better.

J. R. Wathen: I am very glad that Dr. Sherrill has presented this paper and has quoted statistics as to the maternal and foetal mortality of Cesarean section.

From my earliest practice in surgery I have positively assumed the position that the operation of craniotomy on a living child should never be performed, and prophesied that the time would come when no recognized obstetrician or surgeon would perform it; and that even on a dead child there are many conditions under which the operation of Cesarean section is less dangerous than craniotomy.

Wm. H. Wathen: Dr. Sherrill has given the indications for the operation of Cesarean section very well indeed. I do not believe that vaginal Cesarean section is indicated in cancer of the cervix, and I should not attempt it; I would do an abdominal operation to remove the child and follow it up by the total removal of the uterus and the upper part of the vagina if that can be done. The operation should always be performed promptly, and not wait until the woman has become exhausted and, as in the past, often infected by the efforts at delivery.

I remember one case in a woman who came to this city in premature labor, with total obstruction of the bowels, not being able to pass either feces or gas, nor could she pass urine without a catheter. The pelvis was filled with a fibroid tumor, and the cervix was pushed up so high that it could not be detected in a vaginal examination. She was operated upon and the child removed alive and lived probably six or eight hours. I removed the tumor and uterus by a hysterectomy, the woman making an uninterrupted recovery.

Another case the woman at about the seventh month, began bleeding most profusely from a central implantation of the placenta. She was operated upon, the child removed alive; it lived about the same length of time. She also made an interrupted recovery.

In these cases of placenta previa centralis, I believe that, as a rule, it is better for both mother and child, to do a Cesarean section. The abdomen can be opened quickly, the hemorrhage controlled and the uterus opened without lifting it out of the abdomen.

There are cases where vaginal Cesarean section may be indicated, but they are not fre-

quent. Symphyseotomy I consider seldom indicated, for the reason that it is really a more difficult and more dangerous operation than Cesarean section, with greater mortality to the child, and sometimes you cannot succeed in removing the child when you think you can.

I wish to heartily indorse what Dr. Sherrill has said, and I hope that the members of this society and the profession throughout the State will realize that they are not justified in killing a living child, nor even in performing craniotomy upon a dead child where they can get the patient to a hospital with proper facilities.

W. C. Dugan: I wish to thank Dr. Sherrill for this paper and to indorse every word he has said. I also wish to place myself on record as being unalterably opposed to craniotomy.

Wm. B. Doherty: Dr. Sherrill has given us a very able paper. However, I beg to differ with him in some particulars. I agree with Dr. Tuley that the high forceps operation is a very dangerous one, and believe that craniotomy is not justifiable and should be a lost art. It would be better, I believe, in these high operations to bring about version, unless the head be too firmly impacted. I had a case a short time ago that gave me considerable trouble, which was due, I presume, to a slightly deformed pelvis, as far as I could make out. (I am not a strong advocate of the importance of pelvimetry; I think it is a matter of exceeding difficulty to measure the pelvis with accuracy). In this case the head presented at the superior strait, but would not enter. Perhaps hours elapsed and, strange to say, I neglected to do what I had taught—I did not put the patient in the Walcher position, which increases the conjugate diameter of the superior strait by half an inch. After placing the woman in this position, shortly afterwards the head entered, and I had no further trouble. May I ask Drs. Sherrill and Tuley if they adopt the Walcher position before using the forceps at the inlet? Of course, I recognize the fact that it is a hard matter to keep the woman in this position for some time.

Dr. Wathen, I presume, and Dr. Cecil also, will remember a case some years ago in the western part of the city. This woman had some deformity of the pelvis, and the high forceps operation was employed with delivery of a dead child. She became pregnant a second time, and was delivered again by axis traction forceps, with the same result—a dead child. The third time she became pregnant, she consulted me as to what should be done to avoid the misfortunes of her previous labors. I told her one of three things could be done; first, craniotomy, which I would not advise and which I think is obsolete and wrong. Second, Cesarean section, by which she would, in all probability be delivered of a living child, though her life would be placed in jeopardy. Third, that it might be possible, after

the seventh month, to induce premature delivery, but there was a strong probability of the child dying after its birth. She decided to go along to full term and run the risk of Cesarean section as she wanted a fully-developed living foetus. When labor set in, I telephoned a surgeon to be ready as I expected a case of Cesarean section, but, after patient waiting, I delivered her after a hard struggle, with the ordinary long forceps, of a healthy child, a girl, who is now sixteen years of age.

I believe we are in too great a hurry in our labor cases; we do not give the womb time enough to contract properly before and after the delivery of the child. When we give a woman chloroform and deliver with forceps, usually too rapidly, it generally takes a half hour to an hour for the uterus to respond to sufficient uterine contraction.

I delivered the wife of a physician, some time ago, at the Norton Infirmary in which case there were no perceptible uterine contractions for an hour after the birth of the child, due, I believe, to the fact that the woman was for a long time during labor under the influence of chloroform.

I agree with Dr. Sherrill that in cases of placenta previa centralis, it may be better to perform Cesarean section than to deliver the woman by natural means, but I do not believe this applies to placenta previa lateralis or marginalis.

A. D. Willmoth: I wish to thank the essayist for his very able presentation of this important subject. Personally, I have had no experience with the abdominal method of rapidly emptying the uterus. Many years ago in this city, I was forced to do a vaginal Cesarean section on a marginalis implantation of the placenta to control the hemorrhage, the abdominal route being refused by both the woman and her husband. I succeeded in delivering the woman of a living baby. She recovered but the baby died. But, as Dr. Wathen pointed out, I do not think there is a very large field for the vaginal route.

Another case I saw in a farm house in a woman who was having repeated convulsions, and I again selected the vaginal route because I did not have any assistance to do the abdominal operation, and I felt that I could empty the uterus easier by the vaginal route than by the abdominal method. I made an incision in the posterior left-hand quadrant of the vagina, incised the cervix on each side, clamped it off, and delivered the woman. This woman died later of eclampsia, but the baby lived.

As has been pointed out by several of the previous speakers, I believe that placenta previa is a condition in which Cesarean section is indicated, and that if the surgeon could see these cases earlier, we would not have the high mortality that obtains at the present time. Those

who have had experience in such work know that to tear through the placental attachments produces hemorrhage that is alarming and the danger to the child is great. If such cases could be early removed to the infirmary and operated upon, the mortality would be considerably lowered.

I have had no experience in operation upon the pubis, but I know that in such operations there is danger of damaging the soft parts and of non-union of the bones. It is far more dangerous than Cesarean section. If the latter is done by a competent man, it is not necessary to pull the uterus out; the operation can be done entirely within the abdomen, and there is no more danger of infection than in any other abdominal operation.

One class of cases, which has not been referred to, is that in which the high forceps operation, and various other attempts at delivery have failed, and the patient is exhausted, and is then brought to some surgeon who refuses to operate because of the fact that the patient has become infected and the surgeon is almost certain to lose the case, making his mortality high. These patients should not be refused operation, because they are a class of cases in which we get just as good results as in other infected cases, barring the possibility of infection from below.

Lee Kahn: I would like to hear an expression of opinion as to whether a surgeon in performing Cesarean section, is justified in sterilizing a woman. I do not mean from a legal standpoint, but from a moral or ethical viewpoint. In view of the fact that a subsequent pregnancy will probably necessitate another abdominal section with its attendant risk, is he justified in sterilizing a woman, even though he has her consent, or her request that it be done?

C. H. Harris: I have done three craniotomies and my patients have all done well. I do not know whether that has been due to my good luck or whether they were good cases. I had a case not very long ago in which the woman had been in labor for 48 hours and the child's head had not engaged in the superior strait, and I performed craniotomy, and finally delivered the woman with very little damage to the soft parts. I will say, however, that I was unable to detect fetal heart sounds. The woman made a very nice recovery.

I do not believe that I would consent for my wife's abdomen to be opened if there was any reasonable hope of saving her by the destruction of the baby. I believe our first duty is to the mother.

I would like to ask Dr. Sherrill whether he makes any effort to locate the site of the placental attachment before he opens the uterus?

Harry A. Davidson: I have not had any experience with abdominal Cesarean section, but

I would like to discuss a few of the points that have been mentioned here this evening.

In recent literature, hebosteotomy is considered a very good operation, and those who have performed it a great number of times think that it has a large field of usefulness; in fact, it is claimed that this is going to be the operation in a great many cases of contracted pelvis. It is a very simple operation, consisting of simply sawing through the bone without cutting through the skin. One can get underneath the skin with a needle without making an incision through it. It is claimed that this is going to be the operation for the general practitioner, and it is recommended that every one familiarize himself with it so that he will be able to do it in case of emergency where a surgeon cannot be obtained.

Dr. Doherty mentioned pelvimetry. I think every doctor ought to have a pelvimeter in his office and should take measurements of the pelvis of every primipara he is called to attend. It is a simple procedure and one that should not be neglected. I think the doctor is at fault who will go into a labor case, where he has been engaged beforehand to deliver a primipara, and then find that she has a contracted pelvis, when, if he had ascertained this some months before, he could have induced premature labor and had a living child and an uninjured mother.

Another point mentioned, upon which I think stress should be laid is that the mortality of Cesarean section increases with every hour that the woman has been in labor. Therefore, I think the doctor should take that into consideration, and if the woman has been in labor for 24 to 36 hours, it would hardly be safe to do an abdominal Cesarean section particularly if there have been many unsuccessful attempts at delivery, and especially with forceps. He should not do Cesarean section under such circumstances, as he will have infection if he does. That has been proven by the statistics of men who have done hundreds of these operations.

I wish to thank the essayist for his very able paper.

Wm. B. Doherty: I wish to say that I believe in pelvimetry and used it only last week in a case of suspected deformed pelvis. However, I do not believe in the accuracy of the size of the birth canal as determined by the external measurements of the dynamic pelvis by the pelvimeter. I believe we will be able to tell more with the finger than by anything else, but there is no reason why the pelvimeter should not be used as an auxiliary means of measurement.

J. Garland Sherrill (closing): I wish to thank the members of the Society for their excellent discussion of the subject.

Referring to Dr. Tuley's remarks, I think I made it clear in my paper that I believe that there is scarcely ever an indication to do cran-

iotomy, but that if there is such an indication, it is a dead child with an aftercoming head, the body being delivered. However, I believe in some cases, for instance, placenta previa centralis with a living child, Cesarean section would be justified and, in most cases, it would be the best operation to do, whereas, if the child were dead or supposedly so, the vagina could be packed, the hemorrhage stopped and time taken to deliver the child.

I also stated that we should never employ operative means where there was reason to believe that the baby could be safely delivered in the normal way, or with the simple application of forceps.

One reason for bringing up this question just at this time is because of the claims made by European surgeons, especially those in Germany, France and Italy. They claim that, of two thousand cases, they have been able to deliver 80 per cent. by spontaneous delivery, of living children without injury to the mother; 15 per cent. were delivered with the aid of hebotomy, and only 5 per cent. required Cesarean section. Therefore, I think we should not overlook the fact that in many instances, although there may be deformity of the pelvis, the head may be so rotated as to effect delivery without great difficulty.

Not long ago I was called to see a patient in consultation with a very prominent obstetrician, who believed that Cesarean section was indicated. I examined the woman, found the head engaged in the superior strait, not fixed, and coming down, and expressed the opinion that the patient could be delivered. She was delivered, but the child was dead, and the woman was torn extensively. It was a very difficult labor and the woman developed sepsis and died. Compare that picture, which is not an exceptional one, with the simple, straight, clean-cut incision through the abdominal wall of the uterus, rapid emptying of the uterus, prompt suturing, and no damage to the mother at all.

In my first operation I used the gum tube surrounding the uterus, but since then I have abandoned its use because I have had no difficulty in controlling the hemorrhage.

I cannot agree with Dr. Harris. I believe that, while the mother is, of course, entitled to first consideration, the child has a right to live. I believe it has been proven that the maternal mortality from Cesarean section is less than from any other operation in obstetrics, and the foetal mortality is also considerably less. Therefore, I think that operation should be employed in cases where it is indicated, but not where there is a probability of safe delivery through the normal passages.

Dr. Kahn's question, as to rendering the woman sterile is an important one. Personally, I have always been in favor of leaving the tubes

and ovaries intact, because I believe the patient can readily be delivered in subsequent pregnancies by the same method. There is a case on record where a patient was safely delivered in five consecutive pregnancies by Cesarean section. Premature delivery may be employed if the obstetrician deems it wise, at 8 or 8½ months.

I do not agree with Dr. Davidson that infected cases are not to have Cesarean section performed upon them, unless it is absolutely certain that the patient is moribund, and then, of course, operation is not to be advised.

One thing that has interested me in the operations I have done is that these children are usually asphyxiated, and it has required from six to twenty minutes to restore these children. The question occurs to me as to what causes this asphyxiation? Is it due to the anesthesia? Certainly it is not due to any interference with the circulation.

I will say that, in all these cases I use silk for the muscular suture. My reason for using silk is that we want a suture that will stand a little longer than the usual time for catgut in the soft structures. I then supplement it with several catgut sutures, and with this suturing, healing is perfect. I use silk or linen for the deep tissues and sew only the abdomen with catgut, as for any section. Some operations have been done without suturing the uterus at all, but those cases usually get into trouble. Therefore, I would advise suturing the uterus.

The objections mentioned by Dr. Tuley to the operation of hebotomy, seem to me, theoretically, to be of real force. Here you have a bone that is giving way. You cannot limit the amount of separation of the bone, and you can scarcely prevent tearing of the soft parts as a result of the change in the relations of the bones as the child passes through, and the danger of sepsis from extensive tears of the soft parts is overlooked in many instances. However, men who use this operation believe it to be the best, and many of them who are familiar with Cesarean sections say that the latter operation suffers by comparison. Therefore, we should not pass over an operation that seems to offer a great deal and say that it is no good. One can estimate, by the aid of the pelvimeter, the size of the pelvis, and whether or not the increased dimensions of the pelvis will permit the passage of the head of the child. I do not think it is wise to employ the operation unless one is sure that the head of the child will pass through after the dimensions have been increased; because, if it does not, there will be a very difficult labor, with all its attendant dangers, and perhaps death of the child as the result of efforts to effect delivery.

CLINICAL CASES

THREE NEW SIMPLE AND IMPORTANT TESTS.

BY H. J. FARBACH, LOUISVILLE.

Out of the numerous new chemical tests that have been proposed in the past few months as aids in the diagnosis of various diseases, three seem to be on safe enough ground and are not so complicated or require such elaborate apparatus but that the general practitioner can make use of them.

One of these is Falk and Tedesco's test in diseases of the bronchial tract. Our old textbooks tell us that salicylic acid and its salts when taken in the body can be found in all the secretions of the body. It has been proven, however, that they are not secreted by the normal healthy mucous membrane or the salivary gland, but that they are found in serous and inflammatory exudates. Hence the evolution of this test.

If we give an individual with an unbroken bronchial mucosa the salicylates and then test the secretion we obtain for the bronchial tree for salicylic acid we get no reaction. But where the mucosa is broken or an inflammatory exudate is present we do find the salicylic acid in the sputum. The test is of value in pulmonary tuberculosis, pulmonary abscess and gangrene, unresolved pneumonia, etc.

The test is as follows: 30 gr. of salicylate of soda (pure natural) are given in ten grain doses after meals and the sputum collected 12 to 15 hours later. The test for salicylic acid is then carried out. The sputum is acidulated and shaken with 95% alcohol to precipitate the albumins and mucin, which do not carry any of the salicylates. Filter out this precipitate and alkalize the filtrate and evaporate. Redissolve the residue in a slightly acidulated water and add lead acetate. This causes another precipitate to form, which is again taken out by filtration. This filtrate is then extracted with ether. The ethereal extract is evaporated and tested by adding about ten c.c. of water and one c.c. of a 10% solution of ferric chloride. A violet color denotes a positive reaction.

The second test is the benzidin test for occult blood. This test is as simple to make in urine as the Fehling test for sugar. Take about 1 c.c. of glacial acetic acid and dissolve a small amount of benzidin in it. Add ten drops of this to about three c.c. of ordinary peroxide of hydrogen. This forms your reagent. Add to this reagent a few drops of your suspected fluid and if blood be present even to the extent of one part in eighty thousand the mixture will turn a characteris-

tic blue or green color. This test is simpler, easier to carry out and more reliable than the Guaiac test.

The other test is a unique one and although not an absolute basis as yet it offers a good deal in certain conditions, especially of the biliary passages. It is known as Ehrlich's Aldehyde reaction, and depends upon the reaction between para-dimethyl-amido-benzaldehyde and urobilinogen. It has been demonstrated that the urobilinogen substances are increased under conditions in which there is an increased breaking down of blood pigments, as in malaria, pneumonia, liver diseases, etc. Therefore we have an intensified reaction in these cases. Occlusion of the common duct, experimentally, keeping all bile from entering the intestine was followed by a negative urinary examination. Hence the deduction that a negative reaction indicates an obstruction in the common duct.

The test is conducted as follows: 2 gms. of para-dimethyl-amido-benzaldehyde are dissolved in 100 c.c. of dilute hydrochloric acid. To 5 c.c. of fresh cold urine 5-10 drops of the reagent are added. Shake and allow to stand for a minute or two. The urine must be fresh because the action of the air and sunlight will convert the urobilinogen into urobilin.

Normal urine will give a varying coloration which is intensified to a distinct cherry red on heating and is usually accompanied by a peculiar pungent odor. The reactions that signify some metabolic disturbance are, first, those in which a distinct scarlet color is present in the cold urine, and second, those in which there is little or no change in color of the urine on adding the reagent either in the cold or on heating.

The presence of a distinct positive reaction after free purgation should attract attention to the possibility of trouble in the liver, myocardia, insufficiency or local extravasations of blood in the tissues. The absence of the reaction both in cold and heat would indicate that there was no bile entering the intestine. When the reaction is positive and an operation is necessary care should be taken in selecting the anesthetic, as chloroform can be a direct hepatic poison.

DISCUSSION.

C. H. Harris: I have used the benzidin test for occult blood a number of times, and have found it very reliable. However I have never found blood by the benzidin test that could not be found by other tests.

M. Casper: I would like to ask Dr. Farbach whether he has had any experience with the first test in cases of nervous, irritative cough, where there is no demonstrable lesion of any kind in

the chest. Would this severe coughing, straining, etc., cause enough excoriation of the epithelium to give the reaction?

B. J. O'Connor: The benzidin test is not new in any way shape or form. There is a work in this library on blood tests, written by a government chemist, which takes up the benzidin test and describes it very accurately.

There are several other tests for blood which, under certain circumstances, are more valuable than the benzidin. I have used the benzidin test often and have never yet found blood by that test when I could not either see the blood in the sediment, or recognize its presence, by the presence of albumin and the color of the urine itself.

E. S. Allen: I do not think that Dr. Farbach reported the last two tests so much because of their being new as because of their being valuable. As for the salicylate of soda test, I do not see that it is of any especial value except when used in conjunction with the skin or eye reaction. When you have obtained the skin or eye reaction, then use the salicylate of soda test to determine whether you have an acute inflammatory process going on or an old chronic lesion.

H. J. Farbach: (closing): Just a word about the salicylate of soda test. This test is not only useful in tubercular conditions, but in unresolved pneumonias, or any obscure pulmonary condition, where we do not know whether there is a break in the mucosa or not.

The greatest objection to the benzidin test is that it is too delicate. It is a very delicate substance that is rapidly oxidized by any oxidizing ferment, as, for instance, the enzymes in the saliva, but you can, by heating it slightly, break down and destroy these enzymes.

AN INTERESTING CASE OF TUBERCULOSIS.

(EXHIBITION OF PATIENT.)

By F. C. ASKENSTEDT, LOUISVILLE.

This patient is 41 years of age. He worked in a tobacco factory until 1907, since which time he has been employed in a laundry. Father and mother both living and free from tubercular disease; one sister living in good health; no brothers or sisters dead.

As a child he was in fair health. Had typhoid fever when 17 years of age. Since this time has complained of catarrh in the head. Six years ago he was confined to his bed for three weeks with what his doctors variously designated as la grippe and pneumonia. He did not suffer great pain at this time and does not think his temperature ran over 102° or 103° F. During each subsequent winter he has been afflicted with a protracted cough.

He dates his present illness back to April 1, 1907, when he thinks he contracted a

"cold." On the following May 17th he applied to me for treatment. He was then complaining of severe coughing spells on rising and retiring at night, with little or no expectoration, but sometimes attended with gagging and vomiting. Appetite was fair but digestion poor; never cared for fat food. He felt so weak that he could walk only a few blocks and seemed feverish at night. Pulse at the time of visit (11:00 A. M.) was 102; tension perceptibly low; respiration 32, and temperature 100 $\frac{1}{2}$ °.

The principal signs elicited by chest examination were as follows:

Diminished respiratory expansion over entire left lung, especially its lower portion. Flatness over entire lower lobe of left lung, except the apex of this lobe. Breath sounds over this lobe practically absent; vocal fremitus and resonance almost absent. Apex of right lung presented relative dullness to second rib, and broncho-vesicular breathing. The heart seemed normal in position and size, but a decided accentuation of the second pulmonary sound could be heard. From lack of available sputum, no examination for tubercular bacilli was made at this time.

To make a long story short, under treatment during the succeeding year, his pulse and temperature improved, and there was a gain of 5 pounds in flesh. The patient went back to work.

In July, 1909, an exacerbation occurred, with some expectoration, in which tubercular bacilli were found in large numbers. Since this time the improvement has been slower, but he maintains his usual weight (106-107 pounds). His temperature is now normal, or nearly normal; his pulse 72-80; systolic tension, 110; diastolic, 85; circumference of chest, 30, 15 $\frac{1}{2}$ on right side, and 14 $\frac{1}{2}$ on left; expansion, 1 $\frac{1}{2}$ inches. On examination of the chest, conditions are found exactly the same as three years ago, except that the dullness of apex of right lung has extended to the third rib, and a systolic pulmonary murmur has developed.

If you will observe his breathing, you will find almost no expansion in the lower portion of the left lung, slight breathing in the upper portion of the right lung, and exaggerated breath sounds in the lower portion of the right lung. You will also find an increased depression of the infra and supra-clavicular fossae on the right side. If we turn him around, we find that the left scapula is slightly higher than on the right side, but there is no curvature of the spine. If we look in front, in the median line, there is practically no curvature; perhaps a slight curvature to the right, but I think that is due to his position in carrying on his work. On the right

side he has a fistula which developed about a year ago, from an abscess originating in the rib, caused by standing against a table and tying bundles. This was finally opened and showed very little inflammation or tenderness, and the fistula formed. Upon percussion, we find anteriorly absolute flatness below a line which corresponds exactly with the longitudinal fissure of the left lung. We find slight dullness behind beginning about the fourth rib and increasing gradually until we find flatness at the fifth or sixth rib. We find, too, that in breathing he moves his right shoulder while the left shoulder is immobile. Upon percussion, we find the heart in normal position and of normal size—three inches of relative dullness. Of absolute dullness he has none, but that is simply due to retraction of the heart, leaving a space between the heart and the anterior chest wall. Upon auscultation, we find absence of breath sounds over the lower lobe of the left lung, very slight breath sounds at its apex, and greatly diminished breath sounds over the upper lobe of the left lung. On the right side we find broncho-vesicular breathing over the apex and down to the third rib; from there on we find exaggerated normal breathing. Vocal resonance and fremitus are absent over the flat area, while it is rather increased in the upper portion of left lung, and is also increased over the apex of the right lung.

Over the heart we find, in the reclining position, pulsation in the third, fourth and fifth interspaces. The relative dullness is outlined as I have indicated, and we find a systolic pulmonary murmur, which I did not detect three years ago, or even one year ago. We find marked accentuation of the second pulmonary sound, but no murmur excepted the systolic pulmonary murmur mentioned.

That is practically all I have to say, and I would like for you to go over this case and give your opinions as to the diagnosis. Of course, it is a tubercular case, but whether it was primarily tuberculosis or whether it started with a lobar pneumonia is what I would like for you to decide this evening.

DISCUSSION.

Herbert McConathy: From the absence of vocal fremitus and other sounds over the lower part of the lung, I would think that, most likely, there is an extreme thickening of the pleura, and that the trouble probably started in a tubercular pleuritis.

J. Hunter Peak: What did you do in the way of treatment? The man seems to have improved considerably.

F. C. Askenstedt (closing): Of course, the first thing that occurs to us is that of a case of

fibroid pulmonary tuberculosis. Such cases do not usually present a family history of tuberculosis run a very slow course ten, fifteen, and sometimes twenty years, and run for long periods without fever. The history of this patient accords fully with the history of such cases, yet there are points of considerable difference. In the first place, instead of the apex being involved, it is the lower portion of the left lung. When the lower lobe is involved primarily, it is usually at its apex, but, in this case, that is the point in the lower lobe that is free of involvement. We also find diminished, or nearly absent, vocal resonance and fremitus over the area of flatness. In fibroid pulmonary tuberculosis we find increased vocal fremitus, unless the contraction be so great that the bronchial tubes are considerably narrowed. If that were the case in this man, we would naturally look for spinal curvature and lateral displacement of the heart, which are not present. I think, therefore, we can exclude fibroid tuberculosis.

The area of flatness, which begins exactly at the fissure between the upper and lower lobes of the left lung, suggests that the case may have begun as acute tubercular pneumonia. Some few such cases have been reported in which the patients recovered. If that were the case here, I am sure we would have about the same amount of contracture as in fibroid tuberculosis, which would have ensued.

It seems to me, therefore, that the original trouble must have been pleurisy; but primary pleurisy has no regard for lobes, and any one who has examined this man will have found the flatness limited to the lower lobe. So, I believe that the diagnosis made some time ago was correct, that the man was actually suffering from pleuro-pneumonia, and that the thickening that has resulted from this pleurisy has been considerable. This would explain the absence of vocal resonance and fremitus over the flat area and also the absence of curvature of the spine. The diminished breathing in the upper portion of the left lung, and the flatness in the third and fourth intercostal spaces over the heart, I am inclined to think are due to a resulting fibroidal induration, extending into the left lung, mixed in places with a compensatory emphysema. Then, secondarily, a tubercular infection was grafted upon this process, extending into both lungs.

Not only is the case interesting from a diagnostic standpoint, but it shows the very great amount of vitality that this man must have. In three years time there has hardly been any noticeable difference in the physical signs of this patient, and yet only the lower and middle lobes of the right lung is affording him good service. The entire left lung is more or less affected by this fibroid induration, so this man is breathing

with only a small fraction of his normal capacity.

As far as treatment is concerned, he has been on the open-air treatment. He stays at home, sleeps on the porch, takes a diet rich in nitrogenous foods and has been taking principally phosphorus or iodide of arsenic, administered homeopathically.

POTT'S DISEASE IN INFANT TWO WEEKS OLD.

By M. CASPER, LOUISVILLE.

Baby M., born January 15, 1910. Female child, born at full term after normal delivery; child apparently healthy and well developed, weighing about 7½ pounds.

Did well for the first three or four days, after which it cried a great deal, and slept little. It was accustomed to be half awake and moaned continuously.

Attention was called to this moaning, which was strongly suggestive of pain, and after examination, was thought to be some abdominal condition, due to digestive disturbances.

It was not until the 15th day that slight protrusion of spinous process of first lumbar and to a less extent the last dorsal vertebrae, was observed by nurse.

We were forced to believe this had not existed long on account of repeated careful examination of my own, as well as those of the nurse and mother. The two latter examined the body thoroughly for possible pin scratches, or other causes of pain and restlessness.

Temperature varied but was usually about 100°, never down to normal. Pulse was fast and became progressively faster, the respiration keeping pace.

Emaciation was progressive, though baby nursed well, even up to the last day, and mother had an abundance of milk.

Baby had a cough toward the last. Day after, spinal deformity was discovered, the second toe of the left foot began to enlarge and continued rapidly, becoming as large as the big toe, rather spindle shaped and very red.

When baby was 17 days old, Von Pirquet tuberculin test was applied to arm of baby and mother, reacting in both in 24 hours, slightly but certainly.

Day before baby died it became intensely jaundiced. There was no infection around site of umbilical cord, though it bled slightly several times after separation of stump.

Convulsions in 24 hours before death and were tonic in type. Patient died from asthenia and convulsions when 3 weeks old.

No post mortem examination could be made, parents objecting.

No history of father was obtainable, nor would he submit to an examination; he has, however, a cough, which has existed for a year and says he has had a winter cough for several years. He has a healthy appearance and works hard every day. He never had a physician to wait on him in his life, being 32 years old. He weighs about 150 pounds and is of medium build.

Mother is 29 years of age. No tubercular history in family. She has a goitre of exophthalmic type and a few of the accompanying nervous symptoms, however, not pronounced. Had a miscarriage about a year ago of 3 month foetus. Two and one-half years ago she gave birth to a full term infant, which died three weeks after birth. In connection with the death, I might add that it was born while mother was in midst of severe attack of whooping cough. Her milk secretion failed to start and baby soon grew thin and she says it "dwindled" away, probably died of inanition. However, it was given very injudiciously most all the known brands of patent baby foods in its short life. Mother now has a cough, which has existed for six months. Good appetite, and weight is stationary, being 176 pounds. She feels well and looks well. Her temperature is usually about 99° to 99½°, pulse average 86. Examination of chest reveals dullness of vocal fremitus, and small moist rales. All in all, one could hardly conceive of a mother with so little trouble giving birth to a child with a tubercular lesion. No history of syphilis in either parent.

With this history of mother, positive tuberculin reaction in both mother and child and symptoms of spine tuberculosis in child, (as rigidity of muscles of spine, pain and protruding spinous processes which increased progressively) forced us to make a tentative diagnosis of Pott's disease of spine.

This condition on account of early appearance after birth was necessarily hereditary.

This in the face of modern teaching, which discredits possible heredity of tuberculosis, Birch-Hirschfeld has shown that fragments of a foetus itself showing no tubercular lesion but coming from a tuberculous mother, caused fatal tuberculosis in a guinea pig into which they were inoculated.

McFarland further states that a few cases are on record where the tubercle bacilli passed through the placenta of a tubercular mother infecting unborn child.

Schlueter collected twenty cases of positive inherited tuberculosis.

Schmorl and Koehel reported first cases of placental tuberculosis in 1894, associated with this disease in cattle.

Theoretically, the disease can gain entrance into the unborn foetus in one or two ways:

First—By the placenta being tuberculous.

Second—By a blood vessel of villus being torn, or a break in its wall, thus directly giving passage to the tubercle bacilli from the mother's blood stream to that of the foetus.

DISCUSSION.

M. Casper: While on the floor I would like to mention another case which I have under observation. This is a baby, three months old and large of its age. The mother is apparently healthy and weighs 175 pounds. In this baby, in the last few days, a protrusion of the spine was noticed and I was called to see it. I examined the spine and found very marked protrusion; otherwise the baby has exhibited no symptoms, except that one night it cried a great deal on account of the pain. I have been able to obtain a positive reaction by the Von Pirquet test in the mother but not in the child. There is no specific history. The child was born three months ago after a very hard labor, instruments having been used to effect delivery and it is possible that it was injured at birth.

What I am most concerned about is whether or not this baby should be allowed to nurse its mother, in view of the positive reaction of the mother to the Von Pirquet test. However, she does not appear to be sick and has no physical signs of tuberculosis. In view of the fact that milk given by cows which react to this test is not considered wholesome, the question is whether the milk given by this mother, who reacts to the test is wholesome for the baby?

Dunning S. Wilson: I think the Von Pirquet reaction is of value simply as a means of confirming the physical signs; the value of a positive reaction in the absence of physical signs is, rather questionable. However, the fact that this mother is apparently in good health does not preclude the possibility of her having tuberculosis, by any means. I have under observation at the present time, a girl weighing 188 pounds, who has active tuberculosis with a temperature of 100°.

I have taken a position in regard to tuberculous mothers nursing their infants about as follows: A mother who is running an active tubercular condition is not allowed to nurse her infant. A mother in whom the condition is arrested, or sub-acute is allowed to nurse her child for the first sixty or ninety days, and after that the child is put on a modified milk regime. Even though very great scientific advances have been made in the modification of cow's milk, I question its efficacy in feeding a new-born child. It is a mooted question whether a tuberculous mother, running practically no symptoms, or very slight, is a source of danger to the child, but I believe that, after the first three

months, the child should be put on a modified cow's milk.

Herbert McConathy: I would suggest that Dr. Casper obtain a specimen of the milk from this mother and have it examined for tubercular anti-bodies. I have heard of cases in which the mother's milk, even though she was infected with tuberculosis, contained a good proportion of tubercular anti-bodies, and in that case it would be of benefit to the child rather than otherwise.

Lee Kahn: Dr. Casper has reported a rather rare condition; I have never heard of a case of Pott's disease in a new-born child. In one so young I should suspect a deficiency of the central canal—a malformation of laminae or spine—rather than a congenital disease in the body of the vertebra.

That the deformity appeared at the lower part of the spine leads one to suspect in the new-born a spina bifida and that there was associated with it a foot deformity a complication so frequent in spina bifida, tends to strengthen then the suspicion, though the tubercular test reacted positively.

As Dr. Wilson has said, the cutaneous test is of value principally as a confirmatory measure. We have been encouraged to attribute great weight to the positive reaction, but literature is now reflecting discredit upon it. Charlton in a recent article in the Journal of the A. M. A. questions its value as a diagnostic aid.

M. Casper: (closing): In looking up the literature to a certain extent, I have been unable to find any record of a similar case, nor am I fully satisfied that this was a case of tubercular Pott's disease. However, I do not think it was spina bifida. I have investigated the family history as far as possible, but could obtain no specific history. I am very sorry that I could not get a post-mortem, which would have cleared up the diagnosis. The toe condition was not present at birth, but developed afterwards. The positive reaction from the Von Pirquet test made me believe that the trouble was tubercular, but I am not positive in my own mind whether it was tubercular Pott's disease or of syphilitic origin. Such a deformity could be due to rachitis, but that can be excluded in this case, because the child was as well nourished and developed at birth as any normal baby.

Plaster of Paris as Dressing for the Vagina.

—Kraus insufflates dry plaster of Paris into the vagina to absorb secretions, having found that it takes up moisture by a chemical combination as well as by the remarkable capillary attraction which it shares with kaolin or bolus alba, which has also been commended for the purpose. He reports further good results from the use of chamomile tea for vaginal lavage.

EXHIBITION OF STOMACH AND ITS CONTENTS FROM A CASE OF SUPPOSED POISONING.

BY B. F. O'CONNOR, LOUISVILLE.

The stomach exhibited was removed from a negro, aged 40 years, weight 210 pounds, who died suddenly under suspicious circumstances. After eating a dinner composed of corn-bread and pork, and taking a drink of whisky, this negro returned to his work at the anvil in a blacksmith's shop. About one hour later he fell to the floor, unconscious, gasped, and, before any one could reach him, was dead. The stomach was removed, the oesophageal and duodenal ends being tied off, and the specimen, with the gastric contents, forwarded to us for toxicological analysis.

The gross pathology of the specimen can be readily seen and needs but little comment, since it is typical, with one exception (viz., the whitish, corroded appearance near the cardia) of advanced atrophic gastritis.

The specimen shown in the complete stomach, minus a small section of the whitish looking area near the cardia, which was removed for histological examination, and also minus a larger piece from the greater curvature.

Analysis of the stomach contents showed a total absence of hydrochloric acid, a very low percentage of combined acids, and a small amount of lactic acid. Microscopic examination of the contents showed the starch granules of the corn-bread, and the muscular fibres of the pork, in a very limited state of digestion.

The first tests carried out for poisons (on account of the corroded appearance of the stomach in the cardiac end) were for the various caustic agents. Tests were made for almost every class and species of poisonous drugs with negative results. A histological examination of the stomach wall was then made. The portion which, to the naked eye, appears to have been acted upon by some caustic, showed, under the microscope, that the mucosa was perfectly normal, but the submucosa and muscular layers of the stomach wall had undergone atrophic changes, apparently due to some irritant, probably alcohol. A histological examination of a specimen from the greater curvature of the stomach showed the latter changes still more distinctly, with atrophy marked in all the layers.

The specimen is presented for your consideration for several reasons; the first, and possibly the most important, being the unusually small size of the stomach for an individual who weighed more than 200 pounds. Second, as an illustration of the changes that

may take place in a vital organ without the function thereof being totally destroyed. The third point of interest is in regard to the question of poisoning. Three negroes were held for a week as suspects, pending analysis of the stomach contents. Had a more careful and thorough autopsy been made, probably the true cause of death would have been found in the brain. The fourth point of interest is the apparently superficial burn of the stomach in the neighborhood of the cardia, which tissue, upon histological examination, showed that the mucous membrane was perfectly normal. Exactly what caused this is questionable—possibly some vegetable astringent which was neutralized or rendered inert when it came in contact with the stomach contents.

The specimen is shown to the members of the Society on account of the many instructive and hidden lessons which a study of the case presents.

Cause of death unknown; probably cerebral hemorrhage.

Condition of stomach: Atrophic gastritis; probably due to alcohol.

The specimen was mounted in Keiserling solution and the microscopic sections were prepared by freezing.

MASTOIDITIS FOLLOWED BY INTRACRANIAL INVOLVEMENT.

(EXHIBITION OF PATIENT).

BY J. M. RAY, LOUISVILLE.

I was called to see this patient on November 22, 1909, and found him in bed. He gave a history of having had a chronic suppurating ear, on both sides, since childhood, which he had been treated for every now and then with only temporary relief. A week before he took to his bed he caught a cold and suffered from both ears, accompanied by very intense pain in his head, on the left side, radiating from the mastoid up to the vertex and back to the occiput. This became so severe that he was forced to go to bed. When I saw him he was lying in bed, and one of the first things I noticed was the facial paralysis on that side of his face. He had a very foul discharge from both ears. Temperature normal; pulse about 60. He was not unconscious; he could answer questions, but that was about all. There was no tenderness over the mastoid and no swelling. I gave it as my opinion that the man had mastoid disease, and probably involvement of the cranial cavity as well, and advised operation. He was removed to the infirmary and the next day I opened the mastoid. I found a very hard, sclerotic mastoid, and after a good deal of work I eviscerated the tympanum and opened up the

antrum, throwing both into one cavity—the so-called radical mastoid operation. I made a careful examination to ascertain whether there was a sinus leading from any part of the ear into the cranial cavity. I failed in this, but found an erosion on what I thought was the horizontal semi-circular canal. I enlarged this but, as no pus came from it, I let it alone. The man was put to bed and the next morning was quite comfortable. He had less pain in his head and his pulse had gone up to 68. Mentally he was somewhat better. He staid at the infirmary for a week, improving all the time, and at the end of that period he went home. After he had been home for two days, the pain in his head returned, accompanied by profuse night-sweats. He became greatly emaciated and suffered intensely, requiring an opiate every night before he could sleep. This kept up for four or five days. The cavity had not become infected. I examined his eyes but found no optic neuritis, but the patient's condition was such that I concluded he had intra-cranial involvement. However, his brother objected to any further surgical procedure without consultation, and asked that Dr. Dugan be called to see the case. Dr. Dugan went over the patient, and he will tell you what his opinion was at the time. I will say that he was rather inclined to believe that the symptoms pointed to some intra-cranial involvement and that it would probably be necessary to open the cranial cavity. Before Dr. Dugan was called I had asked the man about the family history, and there was no history of specific trouble. As the brother still refused to permit another operation unless something definite could be promised, I put the patient on iodide of potash.

By the time he had taken four doses he began to improve. The pain and night-sweats disappeared, he began to take on flesh and rapidly got well. The ear has healed up now and he has no pain at all. There is still a slight discharge from the ear, which I think is coming from an area of necrosis on the back wall of the antrum.

I brought the man up here because I am to read a paper tonight upon nystagmus as a symptom of ear disease. The condition of this man was such that I could not make the so-called nystagmus test, but when he came to the infirmary the second time, I syringed the ear out with water and applied what is called the calorice test and found the internal ear on that side to be normal. Afterwards I also tried him with the rotation test, and the induced nystagmus was normal. Had I known that at the time of operation, I could have facilitated the operation because I

would not have spent so much time fooling with the back wall of the tympanum had I known that the labyrinth reacted normally.

DISCUSSION.

W. C. Dugan: I wish to express my pleasure at seeing this patient again. When I saw this man with Dr. Ray he was in a very septic condition, and his mental condition, etc., pointed very strongly to intra-cranial involvement. The result of the iodide of potash treatment is very gratifying, but I am not prepared to say whether it is the result of the tonic effect of the iodide, or whether the trouble was of syphilitic origin.

Harris Kelly: I had the privilege of seeing the operation in this case, and can verify the facts mentioned by Dr. Ray. From time to time during the operation, I took the pulse rate in this man and found it to be very low. On one or two occasions during the operation he became cyanotic and was given oxygen, which revived him immediately.

PURPURA HEMORRHAGICA.

REPORT OF A CLINICAL CASE.

BY M. L. RAVITCH, LOUISVILLE.

Sister E., age 17 years, was referred to me by Dr. O'Connor for a few eczematous-like patches on both legs. The patches were rough, scaly and some were erythematous. Pruritis and burning were the chief symptoms. Patient robust and enjoyed good health until now. She does not feel extra bad now, except for slight dizziness and cessation of the menses. Diagnosis was not pronounced till future time. A mild solution of alum and carbolic acid and stearate of zinc were ordered. Patient seemingly improved. A couple of weeks afterwards the supposedly-yielding-to-treatment patches became angry, extensive and confluent and in addition new ones developed on the arms, chest and face. Blood began to ooze from some of them. Some of them became ulcerated and intolerably painful. Patient complained of a slight chill, but never had a rising temperature. Patient was given all the remedies recommended by authorities for purpura hemorrhagica without any good effect. The patches later were nicely controlled by mild external remedies, and tr. chloride of iron externally, and the patient seemingly improved for a while. She complained of tenderness over the ovaries. Liver and spleen were normal, jaundice absent. As coagulating blood remedies, as advocated by Wright, did not help the patient's condition, syrup iodide of iron was ordered with great benefit. The extremely ragged and swollen tonsils began to disappear after its administration. The patient's health began to improve. The multiple syphilitic-like patches

in the mouth improved under the solution of nitrate of silver. For a while things looked very encouraging, until hemorrhage and ulcerative conjunctivitis of both eyes developed. The patient was seen by Dr. Pfingst and a mild lotion was ordered. As she needed closer attention, she was referred by me to Dr. Schafer. For a while the patient was improving, and then, again there was a relapse. Silver preparations, which had done so much good for the patches in her mouth, were objected to by the oculists for fear it may leave a permanent stain in the conjunctiva.

As new symptoms developed, such as dizziness, tinnitus aurium, pain in the ears and nausea, labyrinthian and visceral hemorrhages were suspected. As a typhoid-like condition with extreme prostration developed, perfect rest and milk and egg diet were ordered with plenty of gelatin per month and rectum. The patient at present is doing very nicely.

As the disease is of unknown origin and as the patient has always enjoyed good health, this case, as a good many others, suggests infectious nature.

MEDICAL PROGRESS

DEPARTMENT OF GENERAL SURGERY

By R. LINDSLEY IRELAND.

I.—LIGATION OF THE HEPATIC ARTERY.

"Prof. A. Narath (Beitr. f. Klin. Chir., Bd. 65, Hft. 2) adds an additional case of ligation of the hepatic artery to the four already on record. At the operation he found a callous ulcer perforating the wall of the stomach, the liver and pancreas, which necessitated a circular resection of the stomach. Owing to an accidental injury of the left branch of the hepatic artery, ligature was required, which was followed by extensive necrosis of the left lobe of the liver. From a study of the cases reported and experiments on animals, Narath concludes that ligation of the trunk of hepatic artery is permissible, provided that at least one of the collateral channels is intact, but that ligation of the a. gastropiploica dextra is only justified in exceptional cases, and may be followed by small areas of hepatic necrosis. Ligation of the a. hepatica propria is not permissible on account of the great danger of necrosis of the liver, and in injuries an attempt should be made to suture the vessel rather than to ligate. Ligature may be exceptionally employed in cases of peripheral aneurysm."

II.—TREATMENT OF DUODENAL ULCER.

"According to Mr. B. G. A. Moynihan (Lancet, an. 1, 1910) the treatment of chronic duodenal ulcer should always be surgical. In a first attack of the characteristic symptoms, or even in a second, medical treatment may be tried; but it has been his experience that the surgical needs of the case have been recognized only after repeated attacks often over a period of years. As the cases are seen now the performance of gastroenterostomy is almost always necessary. The conditions of the ulcer are such that a restoration of the duodenum to its normal state is impossible, and all that can safely be done is to afford a new outlet from the stomach. It is now the author's invariable practice to infold the ulcer, in precisely the same manner as if a perforation had occurred. This allows the ulcer to heal more speedily, as it insures that no food passes through the pylorus."

III.—RECOGNITION OF HOPELESS ABDOMINAL CARCINOMA.

"Dr. D. W. Palmer (Surg. Gyn. and Obst., Feb., 1910) calls attention to the presence of pelvic transplantation metastasis in the recognition of malignant disease of the abdominal organs. His experience is summarized as follows: 1. Rectal examination is absolutely necessary in all abdominal tumors. 2. Of 435 consecutive cases of carcinoma of the upper abdomen, six and one-half per cent. showed pelvic transplantation deposits as the earliest clinical sign of inoperability. Seven and two-tenths of stomach carcinomas had this sign. 3. Fifty-five per cent. more cases were shown to be inoperable through a thorough rectal examination for pelvic metastasis, than because of the presence of supraclavicular gland metastasis. 4. Pelvic metastasis warrants most unfavorable prognosis as regards life expectancy."

IV.—COMPLETE RUPTURE OF THE UTERUS.

"Dr. F. Weber (Deut. Med. Wochensh., No. 3, 1910) reports that among 54,428 births observed in the Obstetrical Clinic of Munich during the last 50 years, there were 53 ruptures of the uterus, that is one to each 1,027. Recovery took place in 22.6 per cent., the greater number in cases of spontaneous rupture. The treatment in 17 cases was expectant (no recovery), consisted of drainage in 2 cases (1 recovery), of tamponing in 8 cases (2 recoveries), of laparotomy with suture of the rent in 3 cases (1 recovery), of vaginal total hysterectomy in 5 cases (2 recoveries), of supravaginal amputation in 10 cases (4 recoveries), of abdominal total hysterectomy in 5 cases (2 recoveries). From

this Weber draws the conclusion that for the practitioner tamponade will always remain the treatment of choice, while in hospitals more active measures are always indicated."

V.—THE USE OF OIL IN THE ABDOMINAL CAVITY.

"Mr. D. P. D. Wilkie (Surg., Gyn. and Obst., Feb., 1910), feels justified from his experience in advocating the introduction of vaseline oil into the peritoneal cavity in the following conditions: 1. In the operations for the relief of old-standing adhesions. 2. In operations for localized or diffuse peritonitis, where handling of the viscera is unavoidable. 3. In operations for generalized peritonitis to favor subsequent drainage and intestinal peristalsis."

VI.—CHRONIC MASTITIS.

"Mr. C. B. Lockwood (Lancet, Jan. 29, 1910) refers to the tendency of chronic inflammations of the breast to end in cancer, and sums up the surgical treatment in, first, an anesthetic; secondly, an exploratory incision; and thirdly, an immediate microscopic examination. That will afford information upon which the next steps are based. If the sections show the presence of mastitis, he removes the chronically inflamed part of the breast with as little scarring as possible, and should it be necessary to remove a considerable portion of the mammary gland, he always endeavors to leave the nipple."

VII.—A REVIEW OF TWO THOUSAND OPERATIONS FOR APPENDICITIS.

"Professor J. Schnitzler, of Vienna (Deut. Med. Wochens., No. 51, 1909) in summarizing his experience, states that appendicitis has not become more frequent than formerly. It is as a rule of enterogenic origin, and cases of hematogenic development are of rare occurrence. No great significance should be attributed to fecal calculi, either as an etiological factor or during the course of the disease. The diagnosis of chronic appendicitis, when unattended with acute attacks, is very uncertain. Apart from the conditions with which it is ordinarily confounded, it is necessary to bear in mind that in latent tuberculosis, especially of the lungs, pain and a feeling of pressure in the ileocecal region are not rare. As regards treatment, operation should be done in the first forty-eight hours in every acute attack exhibiting symptoms of any degree of severity. Large abscesses should be incised by the shortest route, those pointing in Douglas' pouch preferably per rectum. Operation during the interval is to be recommended if only a single previous attack is known positively to have oc-

curred, and is to be advised even after the severest attacks, since the assumption that in these the appendix is obliterated is erroneous."

VIII.—PYLOROPLASTY.

"Dr. A. Groves (Can. Lane., Jan., 1910) believes that pyloric ulceration and stricture are very often conditions preceding cancerous degeneration, and that if these conditions were removed, cancer would not develop. Many people are suffering from and being treated for indigestion caused by a constriction which could easily be cured. In these cases it ought to be clearly explained to the patient that the ordinary treatment is only symptomatic, but that an operation not in itself specially dangerous, will be followed by a complete cure. And one who is not familiar with pyloric surgery will be surprised at results obtained with such little danger. The operation ought to be done early, while the stomach is still in a healthy condition and before it has become dilated."

IX.—NITROUS OXIDE VS. ETHER ANESTHESIA.

"Dr. G. W. Crile (So. Med. Jour., Jan., 1910) believes that nitrous oxide as compared with ether as a general anesthetic is technically difficult and expensive. It has certain dangers, which are almost wholly in the control of the skilled anesthetist; it is not the anesthetic of choice for the uninitiated, but only for the highly trained anesthetist. Properly supplemented and skillfully given, it may be used as a routine anesthetic in general surgery. Once the operation is over, the patient is strikingly better off than after ether anesthesia. The role of shock and infection is far less in nitrous oxide than in ether anesthesia, and accumulating evidence seems to show that there is a distinct diminution in postoperative neurasthenia. In routine operations the combination of scopolamin and morphin given one and one-half to two hours prior to nitrous oxide anesthesia forms so effective combination that in over 50 per cent. of the author's patients the day of operation is robbed of all operative memory, and in the remainder it dulled the edge of both the physical and the mental distress."

X.—EARLY RECOGNITION OF INTESTINAL OBSTRUCTION.

"Mr. J. Hartley (Brit. Med. Journal, Nov., 1909) suggests that every case of recurrent paroxysmal abdominal pain, followed by vomiting and succeeded by intervals of ease, more especially if the stomach resonance be increased upward, should be considered as presumably a case of obstruction. If the on-

set has been accompanied by shock the presumption is still stronger. External hernia should be at once searched for. If this be absent, then enemata should be carefully given and repeated and the stomach washed out, morphin being absolutely withheld, and hot applications used to relieve pain. If, after this treatment has been carefully carried out, both pain and vomiting are not relieved and continue, whether or not there may have been motion or flatus passed after the enemata, then operation should be arranged for without waiting for the signals of the third stage, namely the dry tongue, quick pulse, anxious face, and, above all the distended abdomen. For dry tongue, quick pulse and anxious face mean that toxic absorption from an infected peritoneum has already sapped the patient's power of withstanding shock, and the distended abdomen implies either an incomplete and unsatisfactory operation or one around which nearly all the elements of shock are sure to be assembled."

XI.—PERFORATIONS IN TYPHOID FEVER.

"Dr. E. R. McGuire (N. Y. State Jour. of Med., Dec., 1909) concludes: 1. Early diagnosis is often so difficult that in doubtful cases exploration is the only safe procedure. 2. Rapid exploration causes little, if any, harm. 3. The sooner after perforation the operation is performed the greater the chance of recovery. 4. Rapid operating is essential to success. 5. Operation in the presence of advanced general peritonitis is practically useless, it only brings discredit upon surgery. Among the author's cases of operation for perforating typhoid ulcer two died, but in only one of these could the perforation be classed as the cause of death."

XII.—BIER'S HYPEREMIA IN THE TREATMENT OF ERYSIPELAS.

"Drs. G. Jockmann and C. Schoene (Deut. Med. Wochensch., No. 48, 1909, have treated eighty-five cases of erysipelas with hyperemia by means of the rubber bandage, applied about the neck or the upper portion of the affected extremity, according to the location of the disease. It was well tolerated by patients for twenty-two hours. The feeling of heat following the application of the bandage to the neck was relieved by an ice-bag to the head. The period of treatment had to be shortened only in exceptional instances. Care must be exercised to produce only an active reddening and swelling without special subjective disturbances. For the neck a rubber bandage $5\frac{1}{2}$ cm. wide was ordinarily employed, and for short necked persons one of $3\frac{1}{2}$ cm. In the majority of cases a rapid cure was effected, characterized by a prompt re-

duction of temperature and improvement of the general state. In one-quarter of the cases of erysipelas, for the purpose of promoting the resistance power of the affected tissues against the streptococcal infection and hastening the cure, while in severe infections it is of no value."

XIII.—STATISTICS OF CANCER OF THE RECTUM.

"Dr. Zinner (Archiv. f. Klin. Chir., Bd. 90) presents a review of 201 cases operated on for rectal cancer in the clinic of Hochenegg, of Vienna, in the past eight years. The operations of choice was by sacral route, and laparotomy was resorted to only if absolutely necessary. Amputation of the rectum was done in 16 cases, extirpation of the growth in 112, and resection in 70, with a mortality of 16.8 per cent. As regards the end results, in 137 available cases 27 per cent. were permanently cured. Since 1889 Hochenegg has operated altogether upon 320 cases, with 25 per cent. of permanent cures."

XIV.—TREATMENT OF FRACTURED PATELLA.

"Dr. J. H. Mitchell (Alb. Med. An., Jan., 1910) draws the following conclusion based upon his experience and the recent surgical literature: First, that suture of the patella with wire or chromicized catgut is now generally accepted as a justifiable measure. Second, that thorough asepsis must be had to forestall the possibility of suppuration of the joint cavity. Third, that the transverse incision made directly across the joint between the inner and outer aspect at or close to the line of fracture permits the most extended examination of the joint cavity and the best opportunity to repair the lateral lacerations of capsule, and better opportunity to remove anything that might get between the fragments thereby. Fourth, that it is well to seal the wound without drainage, if possible. Fifth, that it is advisable to commence passive motion early."

XV.—EXOPHTHALMIC GOITRE.

"Dr. J. B. Deaver (So. Med., Jan., 1910) summarizes the factors which are most important for successful surgery upon exophthalmic goitre as follows: Selection of the cases and choice of time for operation. Careful anesthesia, his personal preference being for ether in the absence of definite contraindications. Avoidance of mental excitement. Suiting the operation to the case, i. e., not to do an incision upon a patient who can only endure a ligation. Quick skillful operation. The avoidance of injury to the recurrent laryngeal nerve and to the parathyroid

glands by preservation of the posterior capsule and of the parathyroid arteries. Adequate drainage of the wound."

XVI.—STATISTICS OF GOITRE OPERATION.

"Dr. Schloffer (Med. Klinik., No. 38, 1909) reports on 438 operations for goitre, 427 being for benign, and 11 for malignant struma. Among these were 20 cases of exophthalmic goitre. There were only 6 deaths, all due to severe tracheal stenosis, with changes in the heart and lungs. The end results showed 27 per cent. recurrences."

XVII.—THE GIRARD METHOD FOR THE RADICAL CURE OF INGUINAL HERNIA.

"According to Dr. Heinsmann (Munch. Med. Wochensch., No. 39, 1909), the Girard method has the advantage over the Bassini in that it does not give rise to the formation of scar tissue, which may afterward yield to abdominal pressure. Besides the two deep layers of suture, a covering of fascia is added, which aids in resisting the variations of pressure within the abdomen. The seminal cord is also protected to a greater extent from compression than in the Bassini method. The following points are considered of importance in the performance of the Girard operation: 1. Scrupulous preparation and asepsis, especially in regard to the suture material (silk preferred by the author). 2. The hernial sac should be isolated, as high as possible, drawn out and removed. 3. The muscle fibers of the internal oblique, and transversalis, as well as the outer margin of the rectus, should be sutured to the posterior wall of the ligamentum inguinalis. Care should be taken to avoid injury of the adjacent seminal artery and vein. 4. The most difficult part of the procedure is closure of the hernial opening at the point of exit of the cord. The operation requires trained assistants, and should therefore be done in hospitals. As regards the statistics, in 137 cases of non-strangulated hernia there were four recurrences, and in thirteen of strangulated hernia two recurrences. This is considered an excellent showing because the patients belonged to the working classes."

Ocular Migraine and Frontal Sinusitis.—In the case described by Oertel there was a chronic catarrhal inflammation of the right frontal sinus entailing periodical attacks of intense migraine, as the secretions accumulated and compressed the nerve terminals in the orbit. Notwithstanding the long duration of the sinusitis there was no pus. The case teaches the importance of examination of the nose and sinuses even with purely functional affections of the eye.

Diagnostic Importance of Anaphylaxis from Gastric Juice.—Livierato found that gastric juice from normal persons had no toxic action when injected under the dura of guinea-pigs, even in doses of 1 c.c. On the other hand, gastric juice from patients with cancer of the stomach proved rapidly fatal even in one-tenth of this amount, symptoms following when over 0.05 c.c. was injected. By preparing the animals beforehand with injections of minute doses of aqueous extract of mammary carcinoma and then injecting the minimal dose, 0.05 c.c., phenomena of anaphylaxis were observed at once when the gastric juice came from a cancer patient, but not with gastric juice from patients with ulcer or any form of non-malignant disease. These phenomena of anaphylaxis may serve to differentiate gastric cancer, he remarks, besides throwing light on the general biology of cancer. The anaphylaxis was observed in animals prepared only twenty-four hours before the test.

Transillumination of the Eye.—Langenhan has been applying Hertzells method of transillumination of the fundus from the throat outward, and found it very useful for the early diagnosis of intraocular tumors of the rear segment of the eyeball. It is especially valuable for differentiating such from serous accumulations under the retina.—Berliner Klinis. Ke. Wochenschrift.

Brain Syphilis in the Secondary Stage.—Lohe gives the details of two cases of cerebral disturbances, in the first, coming on only three months after syphilitic infection, receiving prompt and energetic mercurial treatment but proving rapidly fatal from arterial disease and incipient meningitis. In the second case initial sclerosis and hemiplegia were noted only twenty-four days after infection, but they yielded to calomel. Both patients were robust soldiers of 28 and 31. The cerebrospinal fluid in each case gave a Wassermann reaction, while the serum was strongly positive.

Origin of Pellagra.—Among the arguments presented by Alessandrini to sustain his theory of the cause of pellagra are that the seashore and mountainous regions are exempt, and that the disease ceases to spread when artesian wells are installed to take the place of shallow wells and surface drinking water. In the Gualdo Tadino district the endemic zone is distinctly separated from the immune territory by the course of two streams, but the number of cases is no larger close to the streams than elsewhere throughout the epidemic zone.

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ORIGINAL ARTICLES.

HERNIA OF BLADDER, WITH REPORT OF CASE.

BY C. B. SPALDING, LOUISVILLE.

Hernias of the bladder are so very infrequently met with, that as yet no one individual has been fortunate enough to have a sufficiently large number of cases to speak authoritatively. Consequently any discourse upon this very interesting subject, must depend largely upon a review of the limited amount of experience of a number of men.

In the Journal of the American Medical Association, Vol. LIII, 633, 1909, H. E. Randall, in an article, "Inguinal Hernia of the Bladder," states that bladder hernia should always be borne in mind in operating for either inguinal or femoral hernia. Cooley, in Keen's System of Surgery, says that but three cases of hernia of the bladder were encountered in a series of 1900 cases of hernia in patients operated on at the Hospital for Ruptured and Crippled. The case he reports was in a female, aged 20 years, and the condition was recognized during operation by use of sound.

Allison (West. Med. Rev. March 15, 1901) says that the relative infrequency of hernia of the bladder may be appreciated by reference to Moynihan's table (Lancet, March 2, 1900) which includes 187 cases. The analysis is based upon Bruner's report, published in 1889. Siegel collected 73 cases in 1891, and Fenger added 14 in his report of 1895, making a total in his collection of 87 cases. Since the publication of Bassini's method, the reports of these cases have increased,

since the neck of the sac is more clearly exposed by his technique.

FREQUENCY: Analysis of 2500 operative cases (Lancet Med. 1900) in the hands of eight experienced operators, reveals 23, or nearly one per cent, in which the bladder was recognized as part of the hernia, and yet in approximately seven hundred operations Dr. Cooley has not encountered a single case. Roberts (Lou. Ky.) (Amer. Pract. & News, Dec. 1900) added another case, successfully operated upon, and diagnosed before bladder was opened.

The writer was unable to find any recorded cases where hernia of the bladder played any dominant part in the strangulated variety.

The knowledge of such a condition as bladder hernia seems to date back several hundred years, yet the method of successfully recognizing and handling the condition seems to have gotten most all of its advancement since 1890.

R. B. Nevitt (in the Dominion Med. Monthly, 1906, XX VI, 121) in an article, "Hernia of the Bladder," makes the following observations: Albucasis, in the twelfth century. Sala in the thirteenth and Guy de Chauliac in the fourteenth, have mentioned cases, and Verdier in 1769 wrote a classic upon the subject. The modern text books have short references and utter warnings. Hernia of the bladder is perhaps not more frequent now than in earlier years of surgery, but the old operations allowed a limited view only, and the condition went unnoticed unless the bladder was injured. Bruner reports 181 cases; 138 inguinal; 29 femoral, and 14 of other varieties. Maeready gives 92 inguinal; 8 femoral.

Curtis gives 45 inguinal; 10 femoral.

Amount of bladder contained is generally small, about the size of an English walnut.

The prolapse may be intra, extra, or para-peritoneal. The latter is most frequent. Lottheisen states that most cases are said to be extra-peritoneal, but closer investigation will probably show them to be of the combined type. The average age at which it occurs is 51 years and generally in old hernias.

CAUSES: Intra-abdominal pressure caused by pregnancy, constipation, obstructive disease, enlarged prostate, stricture, cystitis, calculus, etc. Flaccidity of age, or dilatation due to obstructive disease play a part. Perivesical fat is said to precede and direct the bladder in its descent. It has been described as different in color from other fat and as having peculiar adhesions to the bladder etc., but whether this is important or not the presence of an unusual quality or quantity of fat should put the surgeon on his guard, especially if the fat has a thin membranous covering or sac of its own, and on opening this the fat is found attached by septa to the parts beneath and does not shell out easily. Lottheisen says if a tongue-shaped mass of fat, base towards epigastric vessels, is seen internal to and below sac, one should be suspicious. Becker says adipose tissue at inner side of sac awakens suspicion. Otermeyer believes that lipocoele is rarely absent. Diagnosis is made, as a rule, first during operation and most often after incision into the viscus.

Bladder hernias may occur through any opening, within the range of the bladder's stretching power, through which any other viscus may pass, namely: any of the pelvic foramina, the vagina, ventral wounds, femoral ring, and especially through the inguinal region, and it is to this locality that I shall confine my remarks especially.

At a glance it can be seen how readily such a hernia could pass through the fibres of the conjoined tendon and out the external ring, on account of the proximity of the bladder, yet almost as frequently the bladder will come out through the internal ring and down the inguinal canal, following the route of the usual indirect hernia, while on the other hand, the bladder will occasionally follow the route of the femoral hernia.

E. Siegel (Casnistik of Bladder Hernia, Inaugural Dissertation, Wurtzburg, 1892) remarks that in his "Histories Anatomiques" Thomas Bartholin credits Jean Dominique Sala as the discoverer of this form of rupture in 1520, although it was more than 200 years later that Verdier in the "Memories de P'Academie Royale de Chirurgie" described viscal hernia, and collected the cases reported up to that time. Hernias of the

bladder may occur as cystocoele inguinalis, C. Cruralis, C. Abdominalis, C. Foramina obturatoriae, C. Perineal, and C. Vaginalis.

Of 73 cases of cystocoele, 48 were inguinal, exactly two-thirds; next, perineal, ten cases. Four cases each, crural and obturator foramen. One case each of abdominal, vaginal (in a child), and ischiatic. In four the variety was not given. As to sex, 35 male and 14 females were distributed as follows: inguinal, 30 male, 4 female; crural, 3 female, no male; perineal, 4 male, 3 female; foramina obturator, 3 female, no male; 1 man with abdominal cyst and 1 child congenital vaginal cyst.

As for age: in 23, two were boys of seven and thirteen years, four men, 23, 28, 32, 34 years all the rest were over 40, nine between 60 and 80, besides one which was congenital (Schreger).

Other peculiar cases mentioned are a bilateral inguinal hernia of the bladder in a man (De la Porte); the same in two women (Caviale and Levert); one case of vesical on one side with intestinal on the opposite (Sala); Lenhart found in a woman an inguinal and crural bladder hernia on both sides. Rogretta and Casper found the bladder in two women in the vulva.

Author reports details of case of strangulated hernia complicated by bladder in sac, much fat present, male 34 years. Recovery with various after-effects.

ETIOLOGY: Writer lays stress upon the thickening of bladder wall and accumulation of fat.

Now the question arises as to the relation of the bladder and peritoneum. Our Anatomies teach us that the bladder lies just back of the symphysis, extra-peritoneal and that the amount of bladder surface covered by peritoneum and also the space not covered by peritoneum, anteriorly, increases proportionately as the bladder distends. Therefore, we have the three possibilities, an intra-peritoneal, an extra-peritoneal with also the various stages of partially intra and partially extra-peritoneal types.

As to the causes of these hernias, it is more or less problematic, yet when we recall our anatomy, and study of the pathology of such bladders, with the accompanying weak regions in the abdominal wall, and study the cases of various reports, I think we can arrive at satisfactory conclusions.

We can readily see two very plausible conditions referable to the bladder itself: a very greatly atrophied bladder wall, allowing of much dilation, with little power of contraction; and the opposite condition, a densely thick bladder wall, capable of little dilatation and acting almost as a solid heavy tumor. I think the question as to obstruction

of outflow of urine, due to enlarged prostate, stone, stricture, or other disease, plays a part only indirectly in being the possible source of one of the above conditions.

Age plays an undoubted part, since the large majority of cases are in individuals who are fifty years old or over, the period when physiological atrophy has begun. Atrophy of the bladder muscles undoubtedly allows of undue dilatation and may play its part in causing such a condition. A point in favor of this may be suggested, that bladders capable of great distention are, as a rule, not painful, which may be the cause of the very infrequent symptoms referable to the bladder, obtained before operation.

On the contrary, the type of hernia that may be caused by a hard contracted bladder, acting as though it were almost a solid tumor, being dragged by its own weight, quickly occupying the weak opening, when assisted by a violent intra-abdominal pressure, is more likely to be of the complete variety of bladder hernia.

Adipose tissue found about the front of the bladder, plays a most important part as it adds weight, and seems to act like a sinker, helping to pull the bladder through these openings. In practically all cases reported, the mass of fat coming down with the bladder, has been present and is regarded as an important diagnostic symptom.

Intra-abdominal tumors may play a part, but I could find only one case in which such a condition was present.

Lambert (*L'Echo Med. Lille* 1899, III, 121) Crural Cystocele, woman 58 years old. During operation herinated bladder was accidentally cut into, mistaking it for intestine. Recovery. Had a concomitant fibroma in pelvis which may have had something to do with the case.

These conditions, complicated with weak rings, violent intra-abdominal pressure, and previous hernias, seem ample cause for such hernias.

The complete hernia of the bladder is the most infrequent variety of the inguinal type, and it is the most easily diagnosed on account of the necessity to lift the mass to complete urination. It is usually extra-peritoneal and not complicated by visceral hernia.

"Complete Inguinal Extra-peritoneal Hernia of the Bladder." Recovery, by J. T. Baldwin (in the 1901 *Journal A. M. A.* XXXVI, 1397) illustrates this phase very nicely. Patient 5 ft. 6 in., weight 245, age 51, ruptured eight years, but able to reduce it previously. Tumor large as two fists, extending to bottom of scrotum. Patient stating that he had to lift the scrotum to empty bladder. All of bladder, except neck, was

found in hernia, all of which was placed in proper position. In an article by E. Martin in the "*Deutsch Zeitschrift fur Chirurgie*" printed in the *Philadelphia Medical Journal*, the writer finds that Martin has collected nine cases besides the one reported of strangulated hernia in which the bladder alone was involved, and only in one case was bladder hernia suspected before operation. The writer concludes that his case is the eleventh of this variety reported.

That type which is partly intra- and partly extra-peritoneal is usually pulled down with the visceral hernia, through a large opening in the direct route, a mass, presenting a thin glassy appearance above, corresponding to the cavity of the viscus, and below the mass is thick and shaggy, with a free blood-supply, which represents the pre-vesical fat, and the mass is not usually associated with the cord.

The extra-peritoneal is a frequent form and rarely recognized before damage is done.

F. G. Shepherd in (*Am. Surg.* 1904, Vol. XI, 921) says that "The fact that in one per cent of cases of inguinal hernia there is an accompanying hernia of the bladder, endows this subject with great interest." Many cases are wounded by the needle and many such accidents are not recognized until bloody urine is passed, or until condition of patient forces the opening of wound. One great danger is tying off sac without recognizing what it is, and subsequently its breaking into the peritoneal cavity. The extra-peritoneal form is the most frequent. In four cases reported by Dr. Shephard, all were evidently extra-peritoneal and only one case gave any symptoms relative to the bladder. All protruded through an unusually large opening for the size of the hernia, and in none of them was the cord attached to the sac.

The variety which passes through the inguinal canal, or through the femoral ring seems to be more infrequently found. In an article published in the *Brooklyn Medical Journal* (1906, XX, 89) O. A. Gordon, reviews the history relative to the radical cure of hernia, being responsible for the more frequent finding of bladder hernia and refers to the fact of no one individual having sufficient number of cases to write from personal experience, comments on the numerous routes of exit for these hernias and gives the inguinal route the supremacy, owing to the fact that inguinal are more frequent than the femoral. Refers to 181 cases reported by Bruner, 138 inguinal, 29 femoral, six other varieties.

In some few instances I have been able to

find reports of bladder hernia being complicated by strangulation.

T. H. Manly, in an article "Strangulated Hernia of the Bladder," reported in the *Med. News* (1901, LXXIX, 297), says that extrusion of the bladder wall as a lesion complicating reducible hernia is not very infrequent. Has had three cases and reports that of a woman 82 years old, had swelling in right groin for four years, became suddenly painful, taxis was tried without relief and urgent symptoms set in. On operation it appeared that the peritoneum had undergone changes and become adherent to all adjacent parts, distention of sac had now disappeared. This suggested bladder involvement in spite of the fact that she had been catheterized and six ounces of urine removed. After careful manipulation it appeared that he was dealing with a thickened sac and its contents had been reduced on division of Gimbernat's ligament. It was then divided with scissors and a limpid fluid escaped, much the color of peritoneal secretion, but, doubting still, he introduced his finger, which came in contact with a catheter passed through the urethra. Wound was closed with drainage. Recovery.

L. L. Nouane (*La. Rev. Med. Normandie*, 1906, VII, 37) reports the case of a man 39 years old, tumor of six years duration right inguinal region, lately great suffering, vomiting tumor. Left side showed tumor during paroxysm of pain on right side. Strangulation suspected. Operation showed mass of fat, in which was imbedded the bladder. After twelve days, right side was operated upon, same condition encountered except that the bowel was not found in this one. Recovery.

H. Delageniere (*Bull. Soc. Anat.*, Paris 1889, LXIV, 64) reports a case of inguinal cystocele operated upon radically, died fifteen days later from cerebral complications. Had all symptoms of strangulated inguinal hernia, with accompanying cystitis. Abundant mass of fat was encountered during operation, and injections of boric acid sol. distended the tumor.

E. Pilz (*Wien. Klin. Wochschr.*, 1891, IV, 361) reports a case of incarcerated diverticulum of the bladder in a man aged 62 years. Double hernia for several years, sudden onset of symptoms of strangulation. On operation bladder was found in the sac, by use of the sound. There had been cystitis for some time previous, and patient died from chronic uremia three days later.

Bladder hernias have been but rarely recognized or even suspected as bladder hernias previous to operation and, as you will notice in the various extracts I have read, nearly

all operators damaged the bladder wall before condition was recognized, in their first case, and but few patients gave any bladder history previous to operation, except in those cases of complete bladder hernia.

T. E. Schumpert (Jr. *Louisiana State Med. Soc.*, 1898, 209) reports a case of a man 46 years old, weight 228 pounds, presenting all symptoms of left oblique inguinal hernia. On incision large herniated mass of post-peritoneal fat presented, empty sac was found and freed. What remained was too large to include in one ligature, so he attempted ligation by section, until he cut directly into the herniated bladder. Wound was sewed to incision and later urinary fistula repaired. Dr. Schumpert discusses these conditions very interestingly in a long article, which is discussed by Dr. F. W. Parkman, and he reports having gotten into a similar case.

G. Mandry (*Beitr. Z. Klin. Chir. Tubing.*, 1893 X, 776) says this condition is rarely met with and only recognized during operation for intestinal hernia (*Rev. de Chir.*, 1893, No. 1 and 2) 27 cases of herniotomy in which bladder was recognized as a part of hernia, in seven; in twenty bladder was either cut or torn or ligated with the ruptured sac. Reports case of a man 72 years old, operation performed and bladder cut into and repaired.

E. Vincent (*Arch. Paov. de Chir.*, Paris, 1898, VII, 311) reports case of female 36 years old. On operation bladder was recognized, but on injection of boric acid, into urethra, did not enlarge. Recovery.

In making a diagnosis, those cases which give decided bladder symptoms, should be comparatively clear, but, unfortunately for the diagnostician, they are extremely infrequently met with, while on the contrary the variety giving no symptoms referable to the bladder, and complicating intestinal or omental hernias, are the most frequently seen, and often the idea of bladder complication is not considered. In such cases the diagnosis must be made during the operation and after the mass has been exposed. And if in all hernias we will bear in mind the possibilities of such a complication, and call to mind the facts mentioned in the experience of these various men, extracts of which I have read, I think it will probably save some of us the misfortune of injuring the bladder. In nearly all these cases the presence of a mass of fat, attached to the herniated mass and presenting toward the pubes and middle line was found. Generally the cord is not associated with the mass, and on palpitation you do not expect to find the normal thick bladder wall in this mass, but a very thin

wall, so thin that it can be easily torn with the finger used as a dissector. If you are undecided about where to open, examine the upper portion carefully and locate the peritoneal sac, open that and reduce your intestine, and if the lower half of your peritoneal sac seems thick, and bleeds freely when you try to get the peritoneum free, use a sound or solution into urethra to determine positively. And if it does prove to be a portion of the bladder you can return it to its proper place and complete your Bassini technique as usual. Should you be unfortunate enough to tear or cut into such a hernia. I think the proper procedure is to protect your peritoneal cavity first, should you have it open, for the urine is liable to be infective; then close over the tear in the bladder with two or three rows of Lembert sutures, turning bladder mucous membrane in, then reduce your bladder and sew the damaged area to the lower angle of your incision, put a cigarette drain down to it and proceed with your Bassini operation. Keeping the bladder empty by the use of a retention catheter until the bladder wound has had time for firm union.

The case I wish to report is as follows: On December 6, 1908, I saw Mr. J., age about 55, small of stature, not fat, rather muscular, and a bucket maker by trade, with Dr. Katzmann, and upon examination I found the patient suffering extremely from a mass about the size of your fist, in the right inguinal region. Mass was very tender and quite hard, and patient gave all symptoms of a strangulated hernia, stating that the mass had been hurting extremely for about three-quarters of an hour; had previously had a hernia in that region for two years. I at once confirmed Dr. Katzmann's diagnosis of strangulated hernia and the patient was sent to St. Joseph's Infirmary for operation. As soon as I made my incision through the skin and superficial fascia, the condition struck me as different from any I had seen. I could easily run my finger around the mass, which seemed to have a neck with a circumference about the size of a quarter. The mass was very tight and gave the impression that it would rupture if touched. The upper portion was very thin and I could see the gut through it, at least a fluid was apparently present, which looked black; the lower half of the sac was thick and shaggy looking with quite a lot of fat present. The cord was free and seemed not to be associated with the hernia at all. I was so sure that I could see the gut that I was afraid to cut the sack, so I made a button-hole incision in the right rectus muscle and passed my finger through that and into the

neck of the peritoneal sac. On enlarging this and opening the sac quite a little fluid passed and I thought I had cut the gut, which was black and all but gangrenous. This fluid proved to be inflammatory exudate, so, after applying heat to the gut and reviving it, I set about closing my sac off, but this shaggy mass, which now bled freely, seemed too thick to tie off nicely, so I was attempting to dissect it from the peritoneum, using my finger as a dissector, when, much to my surprise, I tore into the cavity and urine poured out. Putting a sponge over the bladder wound, the peritoneal cavity was quickly closed, then I introduced my finger into the bladder to be sure that I was dealing with bladder structure, and not a double sac. Bladder was closed with two or three rows of Lembert sutures and wound fixed to lower angle of incision, and a cigarette drain introduced down to the bladder sutures. The hernia came directly through the conjoined tendon and out the external ring. Wound was closed, but not as tightly as in a typical Bassini, on account of the drain, and my fear of infection from the spilled urine. A retention catheter was placed in the bladder through urethra and kept there six days, and the bladder did not leak, but I had some infection of the wound at both angles. Recovery.

About two weeks after the patient left the Infirmary he reported to me as directed and on asking his condition he said that he was all right except that in the mornings the urine dribbled from him. I asked how long he went without voiding, and found that he would go to bed at seven at night, and not void until eight next day, thirteen hours elapsing. I instructed him to void more often and he had no further trouble. I mention this to show the extreme power of dilatation of the bladder only a few weeks after such a wound with an infected bladder from retention catheter, yet an ability to hold his urine thirteen hours.

In conclusion I wish to refer to a report in the Journal A. M. A. (1908, Vol. LI, 2097) taken from *Deutsche Zeitschrift für Chirurgie*, Leipzig by H. H. Eggenberger, who adds 110 cases to previous statistics of 182 collected by Bruner in 1896. states that operating on a manifest cystocele the bladder should never be injured and results are good. Outlook is not so good when condition is discovered at operation, and in those cases where the bladder is not recognized at operation, the mortality is thirty to forty per cent.

DISCUSSION.

E. F. Katzman: I merely wish to congratulate Dr. Spalding upon the excellent paper he has given us. I saw the patient at three o'clock and by four-thirty he was on the operating table. When I saw him he was in about the same condition as when I had seen him before, and I tried to reduce the hernia, but found that I could not. I then applied the heat and saw him again in an hour, and recognized that the hernia could not be reduced. Dr. Spalding was called and immediately proceeded to operate on him.

John B. Richardson, Jr.: Dr. Spalding has gone into the subject very thoroughly. The statistics he gives differs somewhat from those given by Mayo in his latest work on this subject, who claims that this condition is present as frequently in young person as in older individuals.

I had the pleasure of seeing one of the cases reported by Dr. Kelly, in the service of Dr. Walker at the Hospital for the Ruptured and Crippled. This was a poorly nourished child of eleven years, who had been operated on eight weeks previously for a double inguinal hernia. He went along all right following these operations, but at the end of eight weeks, he had what was thought to be a recurrence of the hernia. Examination showed that he had a bilateral femoral hernia. He was at once operated upon and the left femoral hernia closed without mishap, but in opening the sac on the right side, the bladder was entered.

The point the essayist brought out about hemorrhage is of the utmost importance to remember in opening the sac of all hernias. In the older hernias the sacs are thickened and, as a rule, they do not bleed, but in opening the sac where we get more hemorrhage than usual, we should be very careful lest we enter the bladder.

In the case I mentioned the case was treated exactly as outlined by Dr. Spalding, with no trouble whatever. I saw the child four weeks after operation, and there was no recurrence and no infection.

Irvin Abell: Dr. Spalding's excellent presentation of this subject has been a source of a great deal of pleasure to all of us; especially since, as he has mentioned in the course of the paper, the experience of no one man has been sufficient to constitute him an authority on the subject. He has presented very clearly the points that usually draw our attention to this abnormality, if I may so term it, and in future any hernia presenting these unusual characteristics will lead us to suspect the presence of the bladder in the hernia and prevent our entering the bladder cavity.

I have had no personal experience with this complication unless it be one case which came under

my observation several years ago and in which I am totally unable to offer any satisfactory explanation of the subsequent course of events. After studying the statistics, however, I am rather inclined to believe that we were dealing with the complication under discussion and did not recognize it at the time.

The patient was something over forty years of age rather fat, and had had a hernia for a number of years. The mass was never very large, was easily reduced and there was apparently not a great amount of intestine in it; in fact, I took the contents to be chiefly omentum. Operation was done under cocaine, which was not satisfactory in that the patient suffered quite a good deal during the course of the operation, and the movements of the muscles and the patient's body were sufficient to interfere with carrying out dissection and exposing each and every structure as we approached it. The peritoneal sac was very small. There was present this fat that Dr. Spalding describes in his paper. This was merely pushed back and the peritoneal sac tied off. The man went along in an apparently normal manner until the sixth day, when he began to suffer a great deal of abdominal pain, the chief points of pain being in the central line above the symphysis and referred to the glans penis. His temperature, which up to that time had been normal, now rose to 100° or 101°, F., and his urine showed the presence of microscopical blood, pus and albumin. There was not sufficient blood in his urine at any time to be recognized by the naked eye. This condition continued for about a week, at the end of which time there was a well-marked mass in the patient's abdomen, which was most pronounced on the left side. The inguinal hernia had been on the right side. The presence of pus was clearly indicated in this enlargement, and, under general anesthetic, the man's abdomen was opened and the contents of the cavity evacuated. Now, there was no urine present in this cavity at any time, nor any other evidence of injury to the bladder. There still continued to be a small amount of pus in the bladder and a certain amount of albumin in the urine. Convalescence was slow and prolonged but the man finally made a fairly satisfactory recovery. At the end of five weeks a small amount of pus began to discharge from the wound and this continued for two weeks. He finally recovered and left here. I heard from him at the end of a year, at which time his condition was fairly satisfactory.

In reviewing the history of that case and comparing the symptoms as presented and outlined with the symptoms indicated in the essay to-night, I am inclined to believe that, in this case, we had to deal with the complication under discussion, and that it was not recognized. Probably the injury did not go into the

mucous membrane of the bladder. If so, I do not see how we could have avoided having an urinary fistula through the abdominal abscess cavity. The fact that the cavity appeared on the back of the symphysis and chiefly on the left side, while the hernia operation had been done on the right side, leads me to believe that there was an injury to the bladder wall.

FROM A BUSINESS POINT OF VIEW.

By JOHN TRAWICK, LOUISVILLE.

Whatever motive may have actuated the man in his choice when he decided on the Practice of Medicine as a profession, he at least expected to make a living. There may have been offered many inducements, or he may have been influenced by a sentimental view, such as the humanitarian aspect, the relief of suffering, etc., or it may have been the scientific opportunity, but it is true that no one entered the profession expecting anything else than to be able to make enough money to support his family, to pay his way through the world, and to keep his name in good credit.

We do hear occasionally of practitioners of medicine who have done more than merely make a living by their practice, doctors who actually have certificates of deposit drawing three per cent, money lying idly in the bank, accumulated from their practice. We hear frequently of the doctor who has been able by his successful investments to add to his income until he is known as a successful business man as well as a successful practitioner. But these men have arrived. They have made good, are past the Osler limit.

Our discussion applies to the young doctor of the times, in process of evolution, who has deliberately chosen this way to make his living, and do his work in life.

It is the purpose of this paper to present a composite picture of that young doctor, to make a few inquiries, to give no advice but to draw some conclusions from the present day conditions bearing on the business of the practice of medicine. It is presumed that if a doctor is not making a living for himself and supporting his family by his income after ten years in the practice he had best choose another line, and not be long about it, for the times are strenuous,

he is apt to be crowding forty years of age, and there are only a few roads to success open, save to a pliable mind, after forty. There once was a doctor who tried for fifteen years to make a living as a general practitioner, but succeeded only in accumulating a large family and several mortgages on his home. He was persuaded out of that line, took up the exploitation of a patent chill tonic and grew rich. This man made a mistake in the first choice. It was easy for him to change, but to a sensitive spirit it is a grievous thing to find after ten years of effort that he is on the losing side of his life work. Let us read the history so far as it is completed of the young man of today, who graduated from the medical college some ten years ago. He has been through the first few years of starvation, he has backbone enough to stand before the world and demand from the world that living the world owes him. He has married a good wife who is helping him more than any other person in the world to build up a good practice. Two or three children have enlarged the family. The two remember vividly the hard years of struggle in the past, when to meet the rent and telephone bills, and pay the cook and washerwoman, were weekly problems. He has taken the advice of level headed business men and has insured his life for a good sum. He has moved into a prosperous community and sees no reason why he should not continue to grow in the practice, now that he has a good start. He looks with a great degree of comfort on the growing savings account, and is really interested in a few modest investments that have been offered. At the time when his friends seem to be counting for so much, when the live accounts on his records are convincing enough as to his solvency, just now when he actually seems to be making good, sickness that he has not counted on lays him low. He has fought in his mind against the inevitable, but has finally to yield to the urgent advice of a few of his intimate colleagues, and give up. Whether it be for some operative relief or for a long siege of typhoid, the effect is the same. He is down. The income stops. He remembers those outstanding accounts, yes they are good, but the patients who are going to

settle without a reminder are few. Pressure will have to be brought on some, and at the very least others will have to be written a special appeal in order to secure settlement. The wife has too much now on her hands of anxiety and the care of the home to attend to these office matters, and his office help has not been of the competent kind that could be depended on to show judgment and discrimination in the matter of handling the accounts. Little by little the savings account is disappearing. Those insurance premiums fall due with chilling certainty, and the grocer wants some money. He is sent away to recuperate after weeks of illness, and returns before he is really able to go to work. Throwing advice and discretion to the winds he literally crawls back into harness. After the first few days at the office he realizes with pride that his best friends have been the doctors. They have seen his patients for him and are ready to make the most satisfactory settlements of those accounts they handled during his illness. He believes, after all, he will rapidly pick up all he has lost in the weeks out of work. When, however, he calls on the Jones family and finds that they are so well pleased with the substitute they chose when our friend was sick, that they do not care to make a change, even though they do say it in the suavest terms, he stifles a bit of rebellion at the apparent injustice, and goes to the next patient. At the end of six months following his illness, he finds, as a general thing that while he has actually lost very few of his former clients, the actual paying quality of his work is way below his former average. He now counts himself as fairly busy if he is attending six calls a day, whereas one year ago ten to fifteen was his average. On inquiry, he finds to his consolation, if it could be called such, that his colleagues are complaining of the same falling off. The comfort to our doctor is in the fact that the apparent decrease in his work is not due to any actual falling off from his own list, but to the distressing wave of healthfulness that was sweeping over the country. Be that as it may, the facts were incontrovertible. His income was not equal to his outgo. He soon grew to dread bed time for it only meant to him a long siege of mental anguish, hours when the tired body called for sleep, but was goaded to aching desperation by an ever recurring round of thoughts of credit, retrenchment, economizing, how to meet the obligations that must be met within the next few days

and the little savings bank sum long ago exhausted.

In the long talks with his wife, his advisor and most reliable counselor, he succeeded in unburdening his mind for the time being, he was sure of her utmost co-operation in matters pertaining to the actual conduct of the home. He knows, as well as she, that she has turned hats and shirt waist, and yet looked as neat as the best. She realized on her side that her husband had to dress neatly, that his was a profession peculiarly exacting in this regard. They met on common ground and neither was surprised when it finally came out in their talks that there was a serious doubt in the minds of both as to whether they would be able to maintain themselves in the present losing struggle without a decided change in tactics. Our friend found himself facing the situation from a new standpoint. With the very entering of the doubt into his mind, he began to question his former ideals. Previously he had some doubts as to whether or not a doctor could make a fortune in the practice of medicine, in fact, he had acknowledged that they were few indeed who could claim a comfortable competency and say that it had been made by strict attention to the work of a general practitioner of medicine. But his viewpoint was changed now. He had talked with several of the older doctors, and all had given encouragement by their personal experiences. Each one had made some such suggestions as these: Be saving, don't go into debt, live within your income, watch your accounts, send out monthly statements, don't worry, and so on. He fully realized the necessity for the savings habit, in fact, he was perfectly sure now that if he could rise above the present stringency and get on his feet again, he would know better how to save than he did before his misfortune came to him. His family had actually been living on less during that time and without discomfort. As for going into debt, he owed very little in the world, and had such a horror of the pressure of debt that he had frequently hesitated to discount the notes of good clients, from whom he had secured that kind of settlement, for fear that he might be caught sometimes when he could ill afford the experience. He had borrowed on his life insurance policies to help pay the premiums, but had not found it necessary to ask for loans at the bank, because he formerly could see no good reason for borrowing, even when collections had been slow, when he had enough outstanding, in good accounts, to more than meet the demand,

and had no difficulty in effecting settlements in times of stringency. The case was very different now. He had been compelled to force collections, had written many personal letters to his patients, so that now all or practically all of his largest accounts had recently either been paid in full, or settlements had been secured that had placed those accounts in the list marked "closed." In looking over his accounts, he was forced to see that the general average of the amounts was below his expectations. While the actual number of good accounts was probably not decreased, the available cash value of those accounts *was noticeably* decreased. Furthermore the percentage of long illnesses had decreased. Our friend was true to his instincts and knew that he was sincere when he applauded the results of research, that were leading to the prevention of disease, and to the actual cutting short of many maladies that had been prolonged in their lingering devastation of life. But the thing that was uppermost in his mind now was the question, where was it all going to end? How under the shining sun was a man to live in the practice of medicine, if the very thing by which his profession lived was to be taken away. Already he was suffering because there seemed to be not enough people who were sick, or at any rate *he* was not seeing them, nor was he making his rent, and paying for his horse feed, and keeping his clothes cleaned by any other resource than this, namely the compensation he received from his attentions to the sick.

If you had asked him now if he thought a doctor could get wealthy at the practice of medicine he would have answered you sharply. NO: THE QUESTION IN MY MIND IS, CAN A DOCTOR MAKE A LIVING AT THE PRACTICE OF MEDICINE, AND THAT ALONE? He realized furthermore that there was nothing else in the realm of things-to-do that he could do so well as attend the sick. This very thought opened up to him many suggestions, foremost of these was the advisability of taking in some "side lines," or outside work in addition to his practice, in order that he might have a certain fixed income to rely on, while he waited for settlements of accounts of those whom he had served. He could not get away from the fact that goaded him, that he was, after all, a day laborer and doing extra night work at \$2.00 per call and maybe \$5.00 for night calls. The chief credit man in a large clothing store where he had bought his clothes for years, had given him some valuable points on the theory of credit. He found

that "credit" from a modern business standpoint, does not mean simply buying a \$30.00 suit and having it charged and trusting to the future income to pay for the suit, but "credit standing" was reached by two great principles; first, "character," and second, "capacity to pay." In other words his credit was good so long as his character was above question and there was a reasonable assurance that he would have the funds at hand to pay the bill in full at the expiration of the time limit set by the dealers in clothing. He had no reason to suspect that his character was questioned or that there was any doubt of his earnestness, when he undertook any obligations, but sentiment counts for little in the bank or with a modern credit man. The cash at the end of the time, or a reasonable showing of willingness to meet the obligation, is what gets the goods or the renewal. As for that second principle, "capacity to pay," he had to acknowledge that his income was so variable, so uncertain in character that he could not hope to be sure of his income at the end of the next month as he may have been the previous month. His capacity, therefore, was variable in proportion to his income, hence an uncertain quantity. Clothing was sold on thirty days time, and yet he had accounts outstanding, due from his patients with not a dollar credited in payment on those accounts, for six months, twelve months. How could he expect to meet the requirements of a thirty-day limit of credit, when *he owed* money, by an income that came in uncertain amounts every three to six months. He was not surprised when given the confidential information, that, by far the majority of doctors were rated in the local mercantile rating agency as "fair pay, limited credit."

These discoveries led him to consider his practice from a business point of view. His horse and buggy and office outlay were his equipment. His patients whom he tended, with their influence, were his chief assets. His liabilities were heavy. Aside from family necessities, he had to keep up a respectable appearance, that his lawyer friends acknowledged was a duty more exacting in his case than theirs. Life insurance was his chief investment, aside from some small real estate holdings. Premiums had to be met, and notes renewed to maintain these. The great problem then was, how to realize more on an income from his business investment. From this standpoint he quickly dismissed the idea of taking on a "side line," for he realized that no man could make a success at any line of business, who divided his time and attention. Should he undertake, for instance, to

run a real estate business at the same time that he kept his office hours, he would find that the real estate side absorbed more time, distracted his attention too much from the needs of his patients. In the next place, he as quickly turned down the suggestion to give up his home and go back and live with his father and mother until he could "catch up." He wouldn't turn baby, he knew that. He would fight it out under his own roof until his fingers were worn to the quick, rather than be a pensioner on anybody. He had been made a tentative offer of an alliance with Dr. So and So. On mature thought over the proposition he saw clearly that to enter a business relationship with Dr. So and So was to surrender his own identity to a dangerous extent. He was perfectly sure of the doctor's sincerity in making the offer, but had to refuse for two reasons. First, he could not command the \$5000 or so necessary to make a decent out and out purchase of the interest in the business, and he did not care to enter the partnership on any other basis. Second, he needed to develop his practice along individual lines. His wife had taught him to see plainly that he could not, by any possible effort, fit himself into Dr. So and So.'s shoes. His own personality must be his own and he must work along individual lines. His practice then would be his own, and he would owe nothing to any man.

Then, if he thus turned his back on alliance and retrenchment, some effort must be made to realize more from the actual investment he had made in his own business. Merchants of his acquaintance had showed him how they encouraged cash payments of bills, by offering the customer a 10 per cent discount for cash, with a distinct understanding that the time limit was thirty to sixty days. Why wouldn't some such method as that work in the case of his own accounts? He knew he had many "customers" who settled by check the day his bill was presented and who asked not one question. But he realized also that the majority of his patients had somehow or other gotten the idea from somewhere that not always does a doctor actually mean what he says on the face of his statement, but that he will make a reduction if the debtor wheedles and argues the point a little. He knew that interminable discussions had been precipitated in medical societies when the matter of fees was injected, with little actually gained by the discussion. Therefore, he determined to be his own actuary and determine his own valuations. He had reached the point in his experience where he had a faint idea of the value of his services when time, responsibility and ability of the patient to pay, were considered. He wonder-

ed, after all, if it would not be perfectly legitimate to attach a "rider" to his statement of fering a 10 per cent reduction if the enclosed account was paid before the 10th of the month. It seemed a convincing argument in favor of his procedure, that some who had tried the plan, reported an increase in collections from an average of sixty per cent before the trial up to 85 per cent, even 90 per cent of all outstanding accounts after the experiment. On the other hand, he reasoned, such proceedings had no doubt given rise to and actually encouraged the feeling on the part of some that a doctor's charges are the most elastic of all the professions, varying in expansion or contraction with the resistance. As for himself, he felt that he had as much right to value his services as did the wholesale grocer to value his wares, and hardly an account went out from the wholesale house, but carried with it the understanding, expressed or understood, that there was the privilege of discount for cash, also a time limit to the credit period. At the end of that time the purchaser might expect a sight draft for the full amount of bill. He realized that it would not be possible to apply strict so-called "business rules" to his accounts in every case. Sentiment had to play some part, and he was the best judge of the relationship to him of his patient. He had found that when accounts were placed in the hands of collectors, he expected to get returns, of course, but for every person pressed unfeelingly, or sued, he lost a client, and a possible friend. The solution was for himself to keep control of the account, to find that he could nearly always effect a settlement of some satisfactory kind where collectors had repeatedly failed. This meant more routine, maybe unpleasant work for him, but in the end it paid.

With the engrafting of business methods and clean business ideals of credit and value received into his professional life, our doctor grew courageous, and his friends began to remark on the prosperous air of Dr. Somebody. He very soon began to wonder why he had ever even doubted his ability to make a living at the practice of medicine. He saw that it was, after all, a question—yes, of ability, of course, that, but as much of *business* ability almost as professional ability. He remembered old Dr. Friendly, who had developed the professional side of his ability hump to an abnormal degree, but who died with nearly \$10,000 of uncollected outstanding accounts, that were lost absolutely to the estate, because they had grown cold.

We find then that it did our doctor good to be jerked and thrown down, and made to consider his standing in the business world.

He determined to be really somebody in the professional as well as the business life. He concluded that he could form no alliances that meant the sacrifice of his personal identity, or self-respect. Finally *if he would succeed* he must realize that there was no other business for him in the world so pressing as his duties in the practice of medicine.

DISCUSSION.

B. J. O'Connor: I do not think this is any laughing matter. Dr. Trawick has portrayed incidents that not a single one of you can doubt, and yet you laugh about it. The practice of medicine is not a business-like proposition in any way. Any man who can make a living by the practice of medicine, could, I believe, by the exercise of the same amount of talent and energy, make a fortune in any business. There is one thing, however, that places the medical profession on a plane above commercial professions; that is, the nobility of character of the vast majority of members of the medical profession. There are exceptions to every rule, of course, but as a class, I think this holds true.

I am not going to discuss the business end of this paper, although it opens a ripe field for discussion, and one which I hope will be taken up by the members of this society in such a manner that something definite may be accomplished. The fault lies more with ourselves than with our patients, and I think that when we administer the necessary purgative, he will be relieved of a good deal of this hepatic and digestive trouble that Dr. Trawick speaks of. If there is one thing more important than another for a doctor to realize in dealing with himself, it is that his body is very much like a machine; it can perform a certain amount of work and a certain amount of rest is necessary. A man who will labor all the time and forego the necessary rest, recuperation and entertainment is going to pay the penalty some day in the way of illness and perhaps death. A severe illness is sometimes a benefit to the average doctor. It opens his eyes to the suffering and pain that many of his patients undergo. I do not believe that a physician is thoroughly qualified to treat the sick until he has himself lain on his back for two, three or four months.

W. F. Boggess: I rise merely to sanction everything that Dr. Trawick has said. I thought he was telling a good deal of my own history in the early part of my career. I could see myself most beautifully portrayed in several of the harder features of a young doctor's experience.

My idea has been that, when a man becomes a good business man he ceases to be a good doctor. It has also been my observation that it is not always the successful physician from a monetary standpoint who has real talent along the line of the science of medicine; that many of the

most successful men, in a financial way are men who are least qualified along the line of medicine. However, I do believe that we need to get down to more of a business status, and that we should practice exactly the same methods of credit and collections as the grocer, or the real estate dealer, or the department store, or any other business; that is, we should send out bills monthly and expect them to be paid. I wish to say this—and I say it truthfully, too—that I collect 92 per cent of the bills that are entered on my books, and to do this I do not employ any collectors or legal processes. I never sued but one man, and that was a case of sending good money after bad. I had never garnisheed a man; I collect by personal appeal and I let my patients know that they are going to get a bill on the first of every month. We should cultivate a better relationship between ourselves and our patients. If a patient does not pay me for one attention, he does not get any more attention. I do not think we make anything by keeping a "black-list." A patient will pay me that will not pay Dr. Bailey, and oftentimes a patient will pay Dr. Bailey that will not pay me. It is a question of the personal relationship between the physician and the patient. The general practitioner should get close to the patient and close to the family, and if he cannot then collect what is justly due him by personal effort and personal appeal, all the legal processes in the world will not help collect the account.

E. W. Stokes: At the last legislature a law was enacted (and I understand that the Governor has signed it) whereby any one can garnishee a man who owes him money and collect as much as ten per cent of his wages each week. In other words, if a man earns \$10.00 a week, and he owes you a bill of \$35.00 or \$40.00, you can garnishee him and collect \$1.00 on the account every week, and he must also pay the costs in the magistrate's court. If he makes, say \$50.00 a month, you can collect just that much more. In that way you can get these bad accounts off your books and, if you are wise, you will keep them off.

Dunning S. Wilson: Being in the category of the young men that Dr. Trawick speaks of, possibly I may be permitted to say something that occurs to me.

The worst thing that the young practitioner has to contend with is the fear of offending some one in the collection of his bills. Unfortunately, perhaps, I have been blessed (?) with very little fear, and when I started the practice of medicine I made it a point to keep my business and professional interests entirely separate. My bills go out on the first of each month and, if not paid within a reasonable time—say after one or two statements have been sent—an effort is made to collect them. At the beginning of my practice many people would say to

me: "Doctor, I pay doctors' bills only every six months, and I would prefer that you send me a bill only at the end of such a period;" and my reply has always been, "Well if you will make arrangements with my grocer, the people who own the property I rent, the butcher and the baker to send me bills only every six months, I will be glad to accommodate you." Upon putting it that way they usually saw the justice of what I had to say.

Dr. Tarwick touched upon one vital point. I do not think we should drag our professional dignity in the dust in an endeavor to maintain a standing of credit, but I do think that the business side of our professional life is one that is often badly neglected.

The young man of to-day is laboring under different conditions from those which existed many years ago. In the first place, the average physician's office of 15 or 20 years ago would not be entered by the average patient of today. The dirty grates with ashes scattered all around, the windows which had probably not been washed for months would not be tolerated by patients now. Another thing, is the expense, not necessarily for keeping up a fine personal appearance, but for keeping up a scientific appearance, so to speak, an appearance of being prepared to meet any emergency, which means an outlay of considerable capital. Every physician should know something about the use of the microscope and should have one, and he should have other paraphernalia in his office which would enable him to arrive at some definite conclusion in almost every case. Years ago that was not considered necessary.

It has been my observation that people who pay their bills promptly are the very people who will be glad to do you a good turn or speak well of you whenever an opportunity presents itself, while the ones you treat the best and are most lenient with are the very ones who, behind your back, will traduce you and in every way speak ill of you.

J. Hunter Peak: I believe that the business end of the practice of medicine is largely a question of personal equation. No two people in this world are exactly alike; no two of us can do the same thing alike; no two of us collect our bills alike. One thing I am confident of; it has been my experience that physicians, as a class, are men who are honest and want to do right, who are willing to pay their bills and want to make their collections, but I do not believe I ever saw a lazy doctor they are nearly all ready and willing to work. The practice of medicine to-day is a serious undertaking. In view of the amount that is known, the amount that is being written and the amount that is expected of a doctor to know, not only the general practitioner but men in special lines, it is impossible for any human being to know it all.

There is no question in my mind that the time is coming when, if a man wishes to make money in the practice of medicine, he will have to be a specialist—a man who does some one thing better than any one else can do it.

I believe that the best thing for all of us to do is to always make collections, and have it understood that our bills are to be paid as promptly as possible. However it is, of course, impossible for the doctor to entirely cut out charity practice. When I first started to practice it was very necessary for me to collect every thing I made. When I began I had \$2.50 and a wife and baby to take care of. I spent the \$2.50 for a sign, hung it up and went on credit for the rest, and I have gotten along fairly well; I don't owe anybody that I can't pay.

It has been my observation that it is an exceedingly good thing for the young practitioner, when he needs consultation, to call in some one in whom he has confidence and see that the consultant gets his fee. In that way you retain his confidence and friendship, and sometimes you may need him when you can't pay him.

The picture that Dr. Trawick drew is that of a doctor who has been along the line. He hit so many things that I am familiar with that it seemed as if he were giving a history of my personal experience in a great many things. Of course, everybody cannot pay and we cannot worry everybody about bills, but I think we should make it as plain to our patrons as possible that we have to live and, to do so, we must make our collections.

Oscar W. Doyle: I do not intend to try to give you any solution of the question of collecting fees, or of conducting your business; as the saying is, "each man works out his own salvation," but we seem to lose sight of the fact that the practice of medicine does not differ materially from any other profession. The young man seeks to attain the platform of the older fellow, to do the same things he does and to dress as he does; in other words he puts himself on a plane far above his income. That is a serious mistake. The young man in the medical profession have the same road to travel as in any other profession or business: he has a ladder to climb and he must make it rung by rung. It is a business proposition, taking it clear through, and the man who is onto his job does not let anything get by him; he goes after everything he can take care of and does not ask odds of any one. If he is going to be successful it is in him. Of course, everybody cannot be that way, but dig, dig, and, work, work, and grasp everything that comes along and stick to it. Those who have attained great success in this profession have done so because it was in them to be successful, but they have had a hard time and we cannot expect each and every member of the profession to reach the top of the ladder.

David C. Morton: I have noticed a great deal of the discussion of this paper has been along the line of what the doctor gets and what he does, and that very little has been said about the other side. Every successful business man, who has conducted his business on business principles, has succeeded for one reason and that only—he has delivered the goods. The text that we younger men should take home with us is that we must first bend every effort to deliver the goods, and success will come.

J. D. Trawick (Closing): I appreciate very much the trend of the discussion.

Dr. Bailey touched upon the standing of the doctor at the bank. The president of a bank recently told me that he had fifty or sixty customers on his books who were doctors, and that, as a class, he preferred medical men to those of any other profession. He said he believed, as a general thing, that doctors met their notes more promptly and showed greater willingness to meet their obligations than any other class of men he could name. I thought that spoke pretty well for the general credit standing of the doctor.

The point was touched upon that the doctor cannot be a good business man and a good doctor at the same time. True, he cannot do both, but there is a mean that he can strike. A doctor must be able to do his own bookkeeping, attend to his check stubs etc. If he cannot do such simple things as that, he cannot keep up any credit standing.

I hope it will not be understood that the paper was a plea for placing the practice of medicine on a cold business basis; I do not think it could be misunderstood that way. It was merely to call a little more attention to the business side of our professional life.

We must remember that the refinements of diagnosis are much more exacting than they were ten years ago, and the doctor of to-day, in order to keep up to the minute and be able to make a quick and accurate diagnosis, must have a better equipment than Dr. Bailey had in '63. Dr. Bailey recognizes the fact as much as any one else. That was what I had in mind when I made the comparison between the equipment required by the doctor and the lawyer. I do not want to be understood as saying that the doctor should be in any way "dandified," but his collars and cuffs should be always clean and his hands washed. However, in clothing, as well as in equipment, the exactions are greater in the case of the doctor than in any other profession.

Take it straight through, there are very few cases that we class under the head of "charity" that are absolutely charity. In many cases you can teach these patients to pay something; that your services are high-class and valuable, and by impressing them with this fact you give many a man, who would otherwise be a charity patient,

a feeling of self-respect and of admiration for the doctor. Doctors are willing to give a larger proportion of their time and services in cases of need than any other profession, and in doing so they are apt to go so far in that direction that they actually hurt the other man. At the same time we take off our hats and bow with the utmost respect to him. He is willing to give, and give straight along, and let his patient run his bill up into hundreds or thousands of dollars because he knew the integrity of the man. The doctor knows the relationship of his patient better than any other man under the sun. We cannot say to any doctor—"Act thus-and-so to your patient." That is for me, for you, to decide and we refuse to be dictated to. My relationship to my patient is a thing you cannot touch; you cannot say to me, "It is time to collect this or that bill."

Finally, in closing, I would like to accentuate Dr. Morton's point. I think if all young doctors were fired with a determination to "deliver the goods," they would get returns. I want to say that it is not difficult to get a settlement if you impress your patient with the fact that he has been given absolutely sincere, honest effort, and high-class service. Recently a man moved to the city and was in trouble and in debt. Misfortune had struck his family low, and nearly broke the heart of the man. This man was glad to take absolutely the last two hundred dollars he had in the bank and pay right up to the minute. Why? Simply because he felt that the doctors had stood by him and "delivered the goods." I do not believe there is one of us here who feels that he is going to make a failure. If we will go down between the leaves of our books and study each case until there is nothing left to do, and put forth our best efforts and know absolutely that we are right, we can have forty consultants if we want them, and they will not be able to find a thing that has not been studied and discussed. The man who stands absolutely on his knowledge of the case and knows he is doing right and cannot be shaken is the man who is going to be called in consultation. It is the man who knows his business and "delivers the goods" who is going to make a success.

Treatment of Experimental Nephritis with Blood from Renal Vein.—Tria reports experiments on dogs with nephritis (induced by uranium nitrate), injected with serum from the blood of the renal vein of goats. In 8 of the 14 dogs marked benefit was apparent with the injections, while the nephritis persisted unmodified in the controls. He injected 10 to 40 c.c. of the serum according to Teissier's technique, and he reviews the literature on the subject since the latter's first communication published in 1896.

PYELITIS IN PREGNANCY AND THE
PUERPERIUM.

(With Report of Case.)

BY HENRY ENOS TULEY, LOUISVILLE.

Pyelitis, occurring in pregnancy or the puerperium, is a very serious complication and very frequently unrecognized. Because of its importance, and as I have recently had under observation a typical case, which I shall use as a text, I have decided to present a brief paper upon the subject, in spite of the fact that the society recently was privileged to hear a most excellent paper by the president upon bacteruria. It is only by frequent reference to unusual conditions that our minds are focused upon them and their importance finally appreciated.

Mrs. P., aged 29, Gravida, was an unusually active girl, leading an outdoor life, without any severe illnesses. About 16 years ago she sustained a severe injury while horse-back riding, the horse falling backward, pinning her underneath. Convalescence from this injury was slow, and headache and back-aches frequent. Fourteen months after marriage she was instrumentally delivered of a male child after twelve hours in labor, her pregnancy and puerperium being entirely normal.

In March, 1909, she conceived with her second child, being less comfortable during this pregnancy. In the eighth month she had an illness, characterized by chills, fever and sweats, which was not reported to her physician, and lasted about a week.

On December 13, 1909, I saw her in consultation with Dr. Benj. Bayless, at her home in the country, delivering her, with forceps, of a female child. She had been in labor for sixteen hours, the position being a right occiput posterior, necessitating forceps rotation.

With the exception of a cough, developing during the first week, the puerperium was normal, the patient sitting up on the tenth day.

On January 12th, she moved to the city and I saw her at a hotel. The history obtained at this time was that on the 13th day after delivery she had a return of the chills, fever and sweats, the cough being very annoying and persistent. For the past week the cough had been very severe, and a pain had developed over the posterior part of the right lung. Examination revealed all the physical signs of pleurisy over the right base posteriorly, without evidence of consolidation. Two days later signs of pneumonia over the right base were present, the most intense bronchial breathing being at the upper portion of the lower lobe. The next day the patient was seen in one of the sweats which had been de-

scribed, her gown was drenched, and beads of perspiration stood out on her forehead and face. The temperature was erratic, as shown by the chart, and on the 17th, before a report could be had for the examination of a catheterized specimen of urine, a diagnosis of pyelitis was made and the administration of urotropin begun.

The temperature would remain normal for most of the day, and with a clammy sweat usually preceding the chill, the temperature would range between 102° and 105° before morning.

The urinary and bacteriologic examinations made by Dr. E. S. Allen, on the 22nd, 25th and 31st of January were of great interest. The first specimen was cloudy, acid in reaction and a specific gravity of 1020. Urea estimated at .001, total solids 45 grms. per 1,000 c.c, serum and nucleo albumen and mucin present, with a trace of indican. Microscopic examination showed cystic and renal cells, and many pus cells, with hyalin casts, and a pure culture of colon bacillus.

The examination of the urine three days later, made by Dr. Allen, showed practically the same results, with a diminished number of pus cells, and hyalin casts. The colon bacillus was present in pure culture, no other colony showing up in agar culture media. At this time the left lung became involved preceded by pain, increased cough and fever. She was seen in consultation with Dr. J. G. Cecil in order to decide whether it would be advisable to use a colon bacillus vaccine. This was concurred in, and on January 23, fifty millions of bacteria in form of Mulford's bacterin were injected in the skin of the abdomen.

On January 25, the pain over the left chest was so severe as to necessitate a hypodermic of morphia. On the 27th, four days after the first injection a second injection of fifty million bacilli was given, and on this day for the first time a pleurisy was detected over the left lower lobe. Following the second injection the patient seemed improved, appetite was much better and she slept well. On January 31st, 553 ounces of urine were passed in twenty-four hours, the signs in the chest were greatly improved, and Dr. Allen's report of the urine showed a very few pus cells, no casts, and only two colonies of colon bacilli from one drop of centrifugalized urine.

On February 1, the third injection of fifty million bacilli was given, which was followed by a severe reaction, lasting twenty-four hours; the patient was very stupid; there was great general aching and heaviness of limbs, and profound mental depression.

From this time on the improvement in the

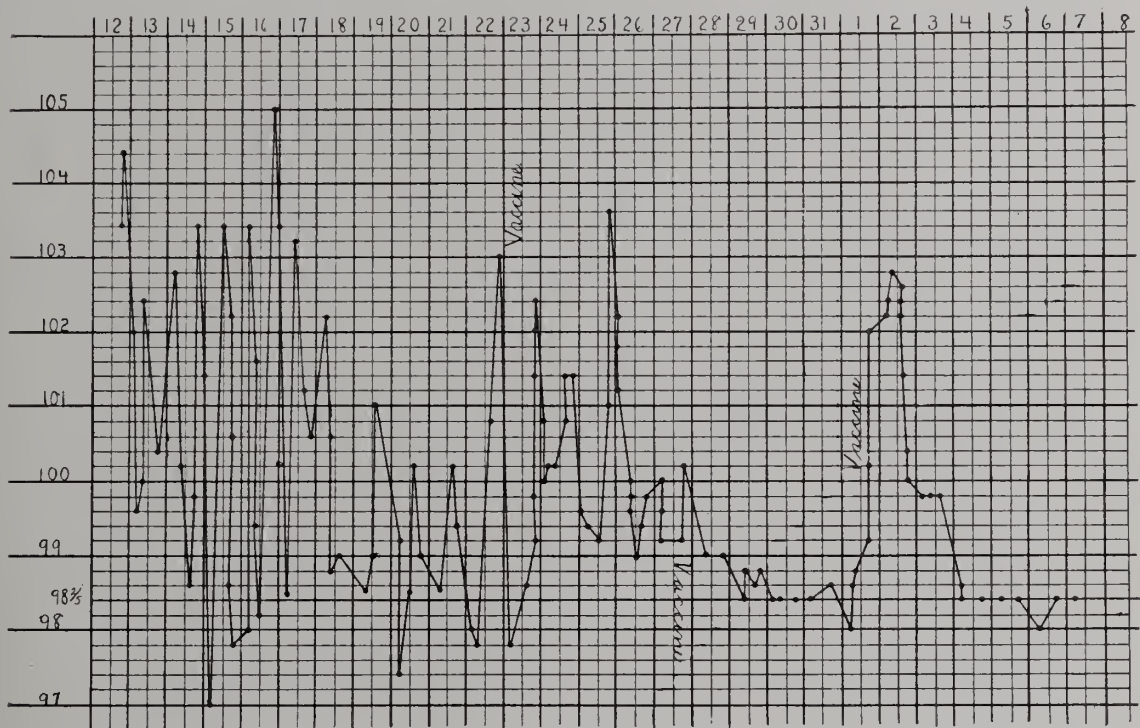
general condition was rapid, and her appetite improved, though the cough remained persistent and stubborn. On February 14th, she left for the South, where she remained for a month with marked improvement in every way. During the first week of February specimens of sputum, obtained with difficulty, were examined, showing staphylococci, streptococci, pneumococci and mould fungi, but no tubercle bacilli.

The treatment during this illness was the persistent and regular administration of urotropin, 7½ grains every three hours, alternating later with the citrate of potassium; the syrup of hydriodic acid, t. i. d.; iodine vasogen was applied locally to the chest; and heroin given for the persistent cough.

The indulgence of the society is asked for

there is a common factor in both conditions, in that in the interval between pregnancies, there is a complete disappearance of the pathological changes. In the albuminuria of pregnancy, if the patient survives, the albumin disappears between pregnancies, and if the toxemia is sufficient convulsions occur. In pyelitis, the pus disappears between pregnancies, and if present in sufficient amount, rigors or chills, with fever, are present.

The etiological factor to be reckoned with in almost every case is the colon bacillus and we must look into the alimentary canal as the source of this infection. It may be, 1. urogenous type, the infection traveling up too the pelvis of the kidney; 2. hematogenous, the infection carried to the kidney by the blood, with secondary infection of the pelvis of the



this lengthy report, but it is the record of an extremely interesting case, which presented such a varied clinical picture. In the light of the kidney infection, which was diagnosed during the puerperium, the attack of chills, fever and sweats, suffered in the eighth month of pregnancy, was unquestionably the beginning of the pyelitis.

This condition may be termed pyelitis or pyelonephritis, according to the conception of the pathological process by the individual observer. It is a distinct pathological entity and should not be confused with or in any way connected with the albuminuria which accomplishes eclampsia. As Ross⁶ points out

kidney. Metcalfe, in discussing this question calls attention to the frequency of infection of the right kidney, because of anatomical arrangement of sigmoid and mesentery.

Eisendrath⁵ states that the urogenous type is apt to follow cystitis. The back flow of urine is prevented by the sphincteric action of the ureters, and anything which increases intra-vesical pressure produces patulous ureters and back pressure. This follows any obstruction to the flow of urine anywhere in the tract. In the hematogenous variety an infection may follow an injury which favors localization; it may also follow the acute infectious diseases, or an acute intestinal infection.

In children especially the history is frequently obtained of a preceding attack of obstinate constipation or gastro-intestinal infection.

The symptoms are very irregular, and frequently the condition entirely overlooked unless a careful *microscopic* examination of the urine is made.

The patient usually complains of ill health, malaise, anorexia, perhaps pain in the loins or tenderness over one or both kidneys, these indefinite symptoms preceding the signs of active infection by several days to a week or more. The evidences of toxemia are chills, fever and sweats, the temperature frequently being normal through most of the twenty-four hours. There may be hyperpyrexia, this being present more frequently in children than in adults.

The urinary findings are typical of the condition, and the examination is incomplete without the use of the microscope. There is acidity, albumin, pus, renal, and bladder epithelium, probably casts, a diminished supply with frequent urination, the latter dependent upon the amount of bladder involvement. The necessity of obtaining a catheterized specimen for examination is emphasized, especially when the pyelitis is a complication of the puerperium. At this time it is impossible to obtain a specimen uncontaminated by the lochia, except by catheter.

The treatment of pyelitis is by the drinking of water freely, and the internal administration of a urinary antiseptic—urotropin being the most efficient. Murphy⁹ has suggested the use of phosphate of sodium to render the urine acid and urotropin as an antiseptic. It should be given in from 20 to 60 grains in the twenty-four hours at regular intervals, decreasing to the smaller amount, after a few days, and continued until the urinary findings demonstrate the acute process at an end. Urotropin has been shown to exercise a marked inhibitory influence on micro-organic growth. It is a colorless powder, readily soluble in water, has a sweetish taste, and is decomposed in the presence of acids and heat into formalin and ammonia, nascent formaldehyd being set free in the kidneys.

It seems to have a specially favorable action upon cases where the bacteria are found free in the urine. In persistent bacilluria after typhoid fever excellent results are obtained from its administration.

It can be given over a prolonged period in smaller doses without detriment.

The use of the colon bacillus vaccine in this case seemed of special benefit and though the last dose was followed by a severe reaction it is impossible to say how much of this can be attributed to the vaccine and how much to the pneumonia in the left lung which was

discovered the same day. The fact that the first two injections were not followed by anything like as severe a reaction would rather tend to the latter theory. The marked improvement in the urine, however, followed the vaccine, the urotropin having caused an improvement, but much more slowly.

In conclusion we would urge the occasional microscopic examination of the urine of every pregnant woman, and always in the presence of fever either during pregnancy or the puerperium.

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DISCUSSION.

E. S. Allen: I remember this case and the urinary findings distinctly.

I believe that we have bacteria in the urine as a result of the puerperium, primarily, much more frequently than is generally supposed. We know that the epithelial cells form a barrier against the entrance of bacteria, and that the chemical make-up of these cells is such as to enable them to protect themselves against all organisms that are liable to be found in the urinary tract, especially the colon bacillus. Therefore, we must have either a mechanical abrasion of these cells, or a chemical disintegration—in other words, we must either break down the barrier, or lower the vitality of these cells, before the bacteria can gain entrance to the blood. Once in the blood, unless taken care of very rapidly, they must necessarily, to a greater or less extent, pass out through the kidneys.

I think a great many bacteria get into the blood through the rectum. Where there is hard fecal material in the rectum, or where massage is practised in prostatic conditions, the epithelial barrier is broken down and we have swarms of bacteria getting into the circulation, and when this occurs we certainly find them in the kidneys; in fact, it has been demonstrated that, if a guinea pig be injected with a pure culture of

staphylococci and colon bacilli, and catheterized within an hour after the injection, the urine will show the presence of the bacteria. I think frequently, after massage, in prostatic and vesicular troubles we find millions of bacteria in the urine which come from the alimentary tract and are not primarily in the bladder. I do not think there is any doubt that, during the puerperium we necessarily have a more or less crippled kidney, for the reason that it must carry on the extra work of the foetus plus that of the mother. Therefore, with a crippled kidney and the epithelial cells more or less devitalized, we have a break in the barrier permitting the entrance of bacteria into the circulation.

One warning we have of the possibility of a bacteraemia is the large amount of indican found in the urine preceding this condition. In making examinations of urine I have frequently noticed that in one specimen there would be no bacteria and a great amount of indican, and that the next specimen would show possibly 80 per cent colon bacilli, and, very frequently, a pure culture. I think indicanuria is an indication that putrefaction is going on in the intestinal tract, with the passage of toxin through the epithelial cells, and when the vitality of the epithelial cells in the alimentary tract is lowered, bacteria will certainly get in. We know that the great majority of deaths, especially in nephritic conditions, are not brought on so much by the toxic material in the blood as by the rapid growth of the bacteria in the blood the colon bacilli, in 90 per cent of cases, being responsible. Bacteraemia sets in a few days before death, and this is described as being the cause of death.

J. Hunter Peak: Please give us your experience with the use of colon bacillus vaccine in these cases.

E.S. Allen: I have used the vaccine myself in several cases, and I have gained a great deal of information as to the results of its uses in cases in which the urine was sent in for examination, and they have been very satisfactory. There is one condition that must be observed, and that is, it must not be given too frequently. When a physician gives his patient a dose of medicine only once a week, or once in ten or fifteen days, he is apt to become discouraged and feel that he is not giving the patient enough treatment, and the tendency is to give the vaccine too often. It merely stimulates the enzymes and chemical anti-toxins of the body, and where we have a lowered vitality we cannot whip it into action; it is simply the reserve force of Nature brought into play by dead bacteria. Using the vaccine too often brings about a condition similar to the one Dr. Tuley describes (though in his case it was probably the result of the pneumonic condition), depression, lowered vitality, weak heart action, headache, a heavy dull feeling etc. I have seen one or two cases in elderly people, in

whom distressing and alarming symptoms followed the use of the vaccine. The only way to use vaccine with perfect safety is to always have an opsonic count made. When you find the opsonic index high, use it but if you have a lowered vitality (and you always have a lowered vitality immediately after it is given), a second vaccine administration is apt to be followed by a condition that is often alarming.

Herbert Bronner: I have enjoyed Dr. Tuley's paper very much, and I rise more to corroborate the statements he has made than to discuss the essay.

Pyelitis is a disease that is very frequently overlooked, especially in pregnant women. Many a pregnant woman is treated for malaria when she has pyelitis. For that reason, I believe that, as Dr. Tuley says, in every pregnant woman who has fever, the urinary tract should be thoroughly investigated.

I have seen quite a number of cases of pyelitis in the past few months and in all of them I have used the vaccine. I feel sure that they all recovered much more rapidly under the vaccine than they would have done under former methods of treatment. All of these cases were in young women, and in only one case did I get such a condition as in the case Dr. Tuley reported. In this case the negative phase was very decided but it was followed by a positive phase just as marked. During the first 48 hours her temperature rose rapidly, then descended just as rapidly and never rose again.

Two Englishmen have done a great deal of work in the use of vaccines, and report a large number of cases. In all their cases they used vaccine, and did not hesitate to use it in pregnant women. They say that, while results have been obtained from stock vaccines, autogenous vaccine gives much better results in colon bacillus infections. They also claim that, while in some cases they were able to get clinical results—that is, the pain, tenderness chills, fever, etc., all subsided—the urine still showed the presence of colon bacilli and in such cases they recommend that the vaccine be used for a long time after the clinical symptoms have subsided.

Edward Speidel: Dr. Tuley is to be congratulated upon the outcome of this case. These cases are very rarely reported, for the simple reason that as Dr. Bronner stated, they are frequently overlooked for a number of reasons. First, because a great many pregnant women do not come under the care of physician until time for labor. Again, because of careless methods, these cases are often diagnosed as malaria, or typhoid fever. We can understand how this condition may be very common in pregnancy when we recall that anything that interferes with the outflow of urine through the ureter causes an accumulation of urine and dilatation of the

pelvis of the kidney, and when this urine is infected by the colon bacilli, it brings about a pyuria, and these conditions exist in practically every pregnant woman. An enlarged gravid uterus, especially if the woman insists upon wearing her corset, may very readily press upon the ureter and interfere with the outflow of urine.

Another factor in the causation of this condition is that mentioned by Dr. Allen; namely, that the kidneys must excrete for two, the foetus and the mother. Another point is that the majority of women, during the latter months of pregnancy eat an unusually large amount of food—they eat for two, as the saying is; consequently, the urine is heavily loaded with chemicals that produce calculi, or small stones, phosphates, urates, and oxyalates. When a few crystals of this kind have been deposited in the ureter, there is slight obstruction. Complete obstruction soon follows, infection by the colon bacilli occurs and the clinical aspects of pyuria present themselves. I had a case of this kind recently in which the symptoms were intermittent, and the patient's condition was such that I considered it safe to wait until full term. The treatment in the meantime was somewhat along the order of Dr. Tuley's internal treatment; that is, the administration of urotropin to keep the urine as antiseptic as possible. With delivery of the child, the patient's condition improved very rapidly and the urine became free from pus.

With the use of colon bacillus vaccine, I have had no experience. I was very glad to hear the experiences of those who have used the new method of treatment because I think it is one that is going to be used more frequently in the future, and the more reports we hear upon such methods the better equipped we will be to handle such cases when they occur in our practice.

H.E. Tuley (Closing): I am sure that the improvement in the urine was directly attributable to the colon bacillus vaccine, because she had been on urotropin for several days without improvement. There was a marked difference in the two specimens of urine. In the last, only two colonies of bacilli developed out of the centrifugalized specimen of urine, whereas, before, there had been myriads of them.

I am convinced that, in this patient, the doses of vaccine were too close together, and I would not advocate injections at less intervals than a week unless controlled by opsonic count. The improvement in the quantity of urine and the number of the bacteria was coincident with the use of the vaccine, and I am sure that I obtained quicker and better results in this case than in any I have ever seen.

CLINICAL CASES

TINEA FAVOSA: PRESENTATION OF CASE.

By HERBERT BRONNER.

This woman was born in Poland and has had her present trouble for two years. I specify her nativity because the disease is usually found in foreigners—Russians, Poles and Italians. It is a typical case of favus involving the scalp, and presents the three leading features of this disease (1) loss of hair; (2) an atrophic condition of the scalp, and (3) what is known as the scutulum, which is a light yellow cup-shaped body or crust that can be forcibly removed from the scalp. Upon macerating one of these in a 20 per cent solution of caustic potash, it shows the typical organism known as the achorion Schoenleimii. I would advise you not to touch the scalp as this disease is contagious and capable of being transmitted from human to human, or from some of the smaller animals, such as a cat or a dog, to the human.

Answering the gentleman's question as to prognosis, it is not good, for the reason that the class of patients in whom we usually find favus will not stand for the prolonged treatment necessary to cure this disease. It is a chronic disease and treatment necessarily takes a long time. Three things are essential in the treatment (1) epilation; (2) removal of the scutulum, which may be done by softening with oil and using green soap; (3) the use of antiseptic ointments. In this case I have purposely delayed removing the scutulum in order that you might see it. I will treat this patient by epilation once a week, washing her scalp with green soap once a day, and rubbing in a 20 percent solution of sulphur, 10 percent beta-naphthol ointment twice a day, alternating, as occasion arises, with a milder application.

I will be glad to show this patient at some other time. One reason for showing the case is that our foreign population, among whom such diseases are most prevalent, is constantly increasing, and I think we should show such cases for the benefit of the general practitioner who is the first to see them.

DISCUSSION.

W. C. Dugan: The fact that this case is somewhat rare in this country adds a great deal of interest to the case. However, general practitioners in cities of this size will be apt to see more such cases as our foreign population increases.

Some of these cases have caused death by reason of generalization, especially when it gets into the mucous membrane of the stomach and intestines. Such a case was reported some years ago.

We would like to have the case presented again when the treatment has shown cure.

REPORTS OF SURGICAL CASES.

BY IRVIN ABELL, LOUISVILLE.

CASE I.

TWIN PREGNANCIES; ONE UTERINE AND ONE ABDOMINAL; UTERINE ABORTION AT THIRD MONTH; REMOVAL OF FOETUS AND PLACENTA FROM ABDOMEN AT SEVENTH MONTH.

Mrs. R. P., age 34, referred by Dr. W. W. Ray. Patient had been married for some years and had never been pregnant but once, miscarrying at the fourth month, two years before the present pregnancy. She gave no history of pelvic disease until the inception of the present trouble. She missed her period the first week of April, 1909, following this she presented the usual symptoms of pregnancy and did not have occasion to call her doctor until June, at which time she suffered severe pain and miscarried. Dr. Ray states that a foetus and placenta were removed at this time. Following this she did not obtain the expected relief, but continued to suffer with symptoms in the lower part of the abdomen and attacks of nausea and vomiting; in July an enlargement of the abdomen was noted. The attacks of pain and vomiting continued. During August and September these symptoms did not remit, the menstrual flow did not reappear and the abdominal enlargement became more marked.

I first saw her during the third week of October at which time she was emaciated, and had a temperature of 101° , and a pulse which varied from 110° to 120° ; there was well marked enlargement within the abdomen, extending to a point above the umbilicus, the mass in the abdomen was irregular and apparently firm in consistence. Vaginal examination showed uterus to be enlarged, to be pressed up against the symphysis and inclined well toward the left side.

October 19, under ether anaesthesia, the abdomen was opened, making incision in the middle between the umbilicus and the pubes. On getting through the peritoneum the placenta was encountered and opened before getting into the gestation sac. The foetus was removed and the placenta, which was attached over the lower part of the anterior abdominal wall, the top of the uterus and bladder, and to the right broad ligament was also removed. There was practically no choice left as to its treatment since upon opening the abdomen the placenta had been incised. Fortunately, the greater part of the blood supply to the placenta came from

the right broad ligament, this was clamped tight; even with this control she lost a great deal of blood. The gestation sac was sewn to the parietal peritoneum and its cavity packed with gauze to prevent further bleeding. She was given a quart of saline intravenously before leaving the table, and after being placed in bed saline was administered by the rectum continuously for the first twenty-four hours.

Her recovery was gradual, but complete, being able to return home at the end of the fourth week.

CASE II.

RUPTURED TUBAL PREGNANCY; ACUTE ANAEMIA; TRANSFUSION.

Mrs. S. P. J., age 24. Referred by Dr. J. H. Parker, of Corbin, Ky. Patient was the mother of three children and gave good personal history up to the inception of her present trouble. She missed her period in December, 1909, and in January, 1910, she considered herself pregnant, presenting no unusual symptoms until the first of February, when her menstrual flow reappeared. The flow was not free and continued at intervals until the latter part of the second week, at which time she suffered severe abdominal pain and went into collapse. She was seen by Dr. Parker and brought to Louisville on a stretcher the 24th of February.

She was markedly anaemic, temperature 101 , pulse 120 , and very feeble; the mucous membranes were blanched and in none were capillaries visible, while the pallor of the skin was extreme. The abdomen was slightly distended and intensely tender. Vaginal examination revealed enlarged uterus and the cul-de-sac filled with fluid. Urine showed specific gravity of 1.022 , contained trace of albumin and few hyaline casts. Blood analysis showed haemoglobin forty per cent, red cells $2,310,000$, and white cells so few as to prevent an accurate count being made. Patient was very weak, fainting upon elevation of the head or trunk.

Feeling that, even could she withstand the added trauma of operation, the blood deficiency was too great to permit recovery, it was determined to try transfusion. Her husband, being strong and healthy, readily consented to act as donor, consequently, on the morning following her arrival, under cocaine anaesthesia, the radial artery was dissected from the left wrist of her husband and attached to the median basilic vein of the left arm of the wife by means of a Crile cannula. Upon completion of the arterio-venous anastomosis the blood was allowed to

flow for a period of forty minutes. During this time the husband's blood pressure decreased from 120 to 104, his pulse, which at the beginning was 72, decreased steadily until it was only 60, but toward the end of the transfusion again raised to 68; there was perceptible change in his appearance, although at the time he did not experience any ill effect; subsequently, after the lapse of eight or ten hours, he felt and showed the effects of blood loss by pallor, weakness and an increased pulse rate.

The pulse of the patient—the wife — at the beginning of the transfusion, was 110°, compressible and weak, blood pressure 110; hemoglobin 40%. During the first twenty minutes of the transfusion there was no appreciable change in her appearance, but during the second twenty minutes a marked change was apparent; the capillaries of the ear and the conjunctiva became noticeable; there was a distinct reddening of the ear, the lips and the cheek. At the end of the forty minutes her pulse was 80, blood pressure 116, hemoglobin 80%, the body surface was warm and showed distinct change in color, practically approaching the normal. Asked if she experienced any change in feeling, she stated that she felt warm for the first time since her severe pain and collapse experienced at her home ten days before. The transfusion was terminated, the wounds closed, and then, under gas-oxygen anaesthesia, her abdomen was opened, finding it filled with blood clots, old and fresh blood. The pregnancy had occurred in the right tube which had ruptured about its middle. The tube was hurriedly tied off. Fearing to keep her upon the table long enough to clean the entire cavity of blood, it was determined to institute drainage. Some four hours had elapsed since she was catheterized, and the bladder was rather distended with urine. It was my intention to make drainage into the vagina and in pulling up the uterus and endeavoring to open the cul-de-sac a flow of liquid was noted to the left of the uterus. Investigation showed this to be urine, and upon examining carefully a small rent was found in the bladder anterior and to the left of the uterus; this was closed with Lembert suture and the intention of placing drainage into the vagina abandoned. The rubber tube was placed in the cul-de-sac, the abdomen closed, placed patient in bed in the Fowler position, and continuous saline administration given for twenty-four hours. Her pulse at completion of the operation was 90, blood pressure 110. Her recovery was gradual, but complete, returning home at the end of the fourth week.

CASE III.

RETROFLEXION OF UTERUS; INTUSSUSCEPTION DUE TO INTESTINAL TUMOR.

Sister F., age 32. Referred by Dr. Cissell, Loretto, Ky.

Patient had always been healthy until the inception of menstruation. She suffered severely with each period, the character of the pain being described as colicky and bearing down; she suffered with backache both during the time of period and during the interval. The backache and bearing down were increased by erect position and exertion. For the past three years she had, in addition, suffered attacks of abdominal pain at irregular intervals. Co-incident with these attacks of abdominal pain, a distention made its appearance and constipation at times became marked. During the periods when she suffered from this colic the pain was usually referred to the umbilicus and was greatly increased by the ingestion of food. I was unable to explain the latter phenomena and advised the patient that the correction of the retroflexion did not offer relief to any other than her menstrual distress and backache.

At the operation, January 27th, 1910, after doing uterine suspension, the abdominal viscera were carefully examined and an intussusception was found at the ileo-caecal valve; fortunately the adhesions between the intussusceptum and the intussusciens were not marked and the intussusception, which was about five inches long, could be reduced. It was found to be caused by an intra-intestinal tumor, which was located in the ileum about 4½ inches from the ileo-caecal valve; this tumor was large enough to practically fill the lumen of the intestine and was attached by a small pedicle to the intestinal wall at a point opposite the mesentery. The gut was opened by longitudinal incision and the tumor removed, the wound being closed with Lembert sutures.

Patient's recovery was prompt and up to the present time she has had no further gastric distress, attacks of colic, or other obstruction.

The microscopical examination of the tumor made by Dr. O'Connor shows the tumor to be an adenoma.

Intestinal invagination due to tumors is rather rare, especially if we exclude those due to malignant growths. Eselin in his inaugural dissertation, Nurnberg, 1902, collected forty-three cases; of these eight were lipomas, six, fibromas; three myomas; one accessory pancreas; one, cyst; six sarcomas; sixteen carcinomas. So, out of a total of forty-three, twenty-two were due to

malignant growths and twenty-one to benign growths. The period between forty and sixty shows more cases than all other ages put together. The general statistics of intestinal intussusception show it is most frequent in the first year of life, decreasing with advanced age, and from forty-three on, a striking diminution is noted. There is a direct reversal of relationship, the explanation of which is easy; intestinal catarrh plays an important role in intussusception and this occurs most frequently in children, hence the frequency of invagination; contrariwise, intestinal neoplasms appear most in the higher decades of life and therefore intussusception due to this cause is seldom met with in children.

CASE IV.

HYPERTROPHIED PROSTATE, CONTAINING THIRTY-ONE FOLLICULAR STONES.

Mr. M. C., age 54. Referred by Dr. Waggener, of Columbia, Ky. Patient's present trouble began five years ago, at which time he noted bladder irritability and frequent urination; during these years the symptoms had become quite marked and during the past eighteen months an increasing obstruction to the flow of urine was noted; during this latter time resort was frequently had to the catheter in order to relieve retention; for the six weeks previous to his coming under my personal care, the catheter had been used continuously.

Examination revealed a moderately enlarged prostate which was exquisitely tender; the urine contained much pus and albumen; the urethral canal was exquisitely sensitive upon the introduction of the catheter or other instrument. Dr. Waggener had made a diagnosis of prostatic calculus, saying that upon two occasions in introducing the metal catheter he had felt the click of the stone before the bladder was entered. On examining the patient with a searcher I was unable to detect a stone.

On March 12th, last, he was placed under an anesthetic and the bladder examined with a cystoscope. It was trabeculated and free from stone. Upon withdrawing the cystoscope, the prostatic urethra was inspected and I was still unable to recognize a calculus. The prostate was approached by an inverted "Y" perineal incision. Upon entering the urethra at the apex of the prostate and introducing the finger into the bladder, a stone could be felt protruding into the prostatic urethra. The prostatic gland was dissected out piece by piece, some of which are presented to-night. The thirty-one

stones, which are also presented, were found in the follicles of the prostate, from one to five being found together. The fact that the stones were follicular necessitated a dissection of the entire gland, fearing that if one be left it would offer a nucleus for a future bladder stone.

Follicular prostatic stones, especially in such numbers as presented by this case, are rather rare; in my personal experience I have never found but two other prostates presenting follicular stones, in one of which there were two small stones, while in the other numerous stones were imbedded in the prostatic follicles and one had caused an erosion into the bladder cavity leading to profuse hemorrhage which rapidly filled the bladder, clotted, and necessitated a suprapubic opening for its relief.

The case reported to-night has so far made a very satisfactory recovery; the perineal wound has healed, the patient has returned to his home, urinary control is not perfect, finding that sudden motion when in the erect or sitting position causes dribbling; this, I am confident, will disappear when complete cicatrization has occurred. The dissection of the entire gland made quite an extensive peri-vesical wound; when a sufficient time elapses for this to become thoroughly cicatrized I am confident his partial incontinence will disappear.

CASE V.

HAEMATURIA DUE TO PAPILLOMA OF BLADDER.

J. P. S., age 39. Referred by Dr. J. Keaney, of this city.

Patient's history as far as his urinary tract is concerned, presented nothing unusual until March, 1908, at which time he noted that the urine passed was quite bloody; this continued for a period of ten days or two weeks, at the end of which time it disappeared under treatment given by Dr. Keaney. This treatment consisted of the administration of ergot. At this time there were no bladder symptoms, no frequency of urination, no pain. The bleeding reappeared the last week of March of this year; the treatment administered upon the former occasion repeated at this time failed to check the hemorrhage.

I saw him on April 2. His urine was very bloody and contained a great number of clots; there was no pain from urination, but he stated that during the urinary act the flow would at times become obstructed. He had also noted that within the past six months he had had to urinate more frequently than normal, as a rule getting up once or

twice during the night, although at periods he would be able to retain his urine until the usual rising hour. Microscopical examination of the urine showed the presence of bladder epithelium and abundant blood cells; no adventitious cells were discovered. Examination with cystoscope showed quite a large papillomatous mass: the mass was so large and so nearly filled the bladder that it was impossible to determine whether it was pedunculated or sessile. Rectal examination did not reveal any tumefaction or hardness of the bladder wall. From this fact I was inclined to the view that the tumor was purely papillomatous and had not undergone malignant degeneration.

On April 7th, under ether anaesthesia, the bladder was opened supra-pubically. The tumor, which, as you will note, is the size of an orange, practically filled the entire bladder cavity. Fortunately, it was pedunculated, the pedicle being about one inch in length, rather thin and attached near the left ureteral orifice. The tumor bled quite freely and, being very friable, I felt it safest to place a long curved clamp upon its pedicle and leave this *in situ*; the pedicle was clamped at its bladder connection and the tumor cut free, after which the bladder opening was closed with Lembert sutures up to the point of the shaft of the clamp which, with rubber drain, was brought out at the upper angle of the wound. The remainder of the wound was closed with silkworm gut. The clamp and drainage tube were allowed to remain for five days. At the present time the incision is all healed except at the point where the drain was introduced; the urine has not passed through the urethra, but sufficient closure of the wound has occurred for him to appreciate the bladder being full. Microscopic diagnosis of the tumor is as follows: Simple papilloma.

DISCUSSION.

B. F. O'Connor: I have never had the pleasure of witnessing an operation in which I took deeper interest than the one just discussed by Dr. Abell. And right here I would like to say that I do not believe we should wait until after a man is dead to acknowledge his success. Unquestionably, the technical skill displayed by Dr. Abell in this operation could only have been gained after years of study. In doing direct transfusion the most trivial injury of the intima will bring about clot formation which will entirely prevent successful transfusion. The skill evidenced in handling the artery and vein in this case certainly deserves the highest commendation.

Although we very often read in the lay papers about cases of successful transfusion, they are really few and far between. In discussing this subject with a gentleman from New York recently, he told me that it was a very common thing there to pick up a newspaper and read an advertisement offering to any one in good health, the sum of five hundred or a thousand dollars for a transfusion. Apparently in New York it is used in cases of pernicious anemia to prolong life, or possibly to bring about an amelioration or cure of the condition. I have not had an opportunity to investigate this statement from a medical standpoint.

The following notes are presented on the condition of the blood, pulse rate and blood pressure before and during the transfusion performed by Dr. Abell:

BLOOD EXAMINATION.

Feb. 25th, 1910. Mrs. J.

Haemoglobin—40 per cent.

Red Cells—2,310,000.

White Cells—Very Low.

No abnormality in morphology.

Diagnosis:—Acute Gravid Hemorrhage.

TRANSFUSION.

MR. J.				MRS. J.			
PULSE	PRESSURE	HAEMOGLOBIN	TIME	PULSE	PRESSURE	HAEMOGLOBIN	REMARKS
72	120	100%	9:40 a. m.	110	100	32%	Intense
72	118	.....	9:45 a. m.	110	Good	.....	Anemia
70	116	.....	9:50 a. m.	106	"	.....	.....
72	114	.....	9:55 a. m.	102	"	.....	Color
74	110	.....	10:00 a. m.	100	"	.....	Improved
78	110	.....	10:05 a. m.	94	Very good	.....	Color
70	108	.....	10:10 a. m.	92	" "	.....	decidedly
70	104	.....	10:15 a. m.	92	" "	.....	improved
68	100	80%	10:20 a. m.	90	110	80%	Color O K

During gas anesthesia—Pulse varied between 80 and 130; volume remained good with pressure slightly lower.

After operation—Pulse 90; pressure 100; condition O. K.

The next report is on the small intestinal tumor, which was examined to-day.

The gross characteristics are—a small rounded mass of tissue of fair consistency, slightly roughened surface, reddish brown in color, with a distinct and rather broad base. This section, which was removed from near the base, shows columnary glands, some transversely and others longitudinally. The tissue at the base shows that the blood supply was very rich. No evidence of malignancy could be found. The base, which you will see under the second microscope, is somewhat infiltrated with columnary cells. Apparently they have undergone mucoid degeneration, or they are filled with mucous secretion, which gives them mucoid appearance.

Diagnosis, papilloma of the intestine.

The next report is on the bladder specimen. This was a soft sponge-like mass, about the size of a large orange. Owing to the fact that the specimen was frozen in order to get the tissue to make the slide, I have nothing but a large number of minute fragments which are very difficult to handle. A mistake was made in removing the sections. Instead of taking them from the base of the structure they were taken from near the surface. The microscopic appearance of these fragments shows a fine stroma, which is covered with stratified epithelium, several layers deep.

Diagnosis, papilloma of the bladder.

W. H. Wathen: All the cases reported by Dr. Abell are very interesting, but time will permit me to refer only to one subject; that is, his report of two cases of ectopic gestation. The specimen shown, of a five-months foetus with the placenta is just about such a specimen as in a case that I reported in the New York Medical Journal nearly twenty years ago. In that case I was able to enucleate the entire placenta with all the foetal structures, but the woman was in comparatively good condition and loss of blood was not a factor. I had another specimen which I removed from a woman who had carried a dead ectopic foetus fifteen months after term. She was referred to me by a physician in Shelby County some years ago, and there was no definite history of ectopic gestation at any time. She had become a morphine fiend from the suffering she had undergone. In this case I opened the gestation sac through an incision in the abdominal wall, and probably a gallon of what appeared to be pus was discharged and with it a full-grown dead child, without any decomposition whatever. Notwithstanding her weakened condition, I succeeded in enucleating the entire sac and removing it, the woman making a recovery,

much better, I think, than she would have done had I left this large sac to come away by gradual separation as in the case Dr. Abell reported. However, one must treat these cases according to conditions that exist. The placenta was larger than an intrauterine placenta at term. You may be able to do complete enucleation, as I was in both these cases, and it will be best for your patient; but, on the other hand there may be cases in which you cannot do complete enucleation because of complicating conditions that arise. However, entire enucleation is the ideal operation where it can be done. The first principle in surgery is to save life; ideal work may be done when it is consistent with the best method of saving the life of the patient.

I have had a wide experience in ectopic gestation, having had, I am sure 150 cases, ranging from the fourth week in pregnancy up to the one mentioned where the child had been carried for fifteen months after its death.

Lawson Tait told us that, when rupture occurs within the peritoneal cavity, in ectopic gestation and quick operation is not done your patient will die. My experience has taught me otherwise, and it is now the almost universal opinion that they do not die. In my experience I have never seen but one patient die from hemorrhage. I have had a number of cases where rupture had occurred a considerable time before I saw the patient, where the mass extended up to the umbilicus, and I have operated (either by the suprapubic or vaginal route) and the patient recovered. The vaginal method should be used only to meet conditions that exist in particular cases; in other words, it should be given preference over the abdominal route only where the latter is apt to cause such shock as may result fatally to the patient, just as in certain cases of fibroid tumor, where the patient is anaemic with probably a myocarditis, we operate by vaginal route to save the life of the patient because operation by the suprapubic route will cause conditions that will probably result in the death of the woman. The suprapubic route should always be chosen where it can be done with safety to the patient.

John W. Heim: I think Dr. Abell is to be congratulated upon the success he has had in these rare cases, especially in the second case reported, in which he did direct transfusion. I had the pleasure of being present at the operation, and I think this was the palest patient I have ever seen. She was so pale that she presented a shiny, waxy color, and she certainly would have been a very bad subject for anesthesia in that condition. Dr. Abell did the transfusion which is very tedious work indeed, without any mishap. For the first twenty or thirty minutes no change could be noted in the patient, but after a few minutes a change was perceptible in the ears and also in the cheeks, and at the end of forty

minutes she had a very good color. The circulation was good in the ears, and when pinched the color would return very rapidly. After the transfusion her condition appeared to be about as good as the average patient we see on the operating table. She then took the gas and oxygen without any trouble. The length of the anesthetic was about 47 minutes, and at times while Dr. Abell was working deep in the pelvis she resisted, as they most all do under gas anesthesia, and this ran her pulse up, but it did not become irregular. She came from under the anesthetic promptly and in good condition. She still had a good color and her blood pressure was the same as it had been at the beginning of the operation.

Edward Speidel: The first case reported presents some interesting features from an obstetrical standpoint. To my mind, the condition of tubal and intra-uterine pregnancy combined was a twin pregnancy; that is two ovules were impregnated at the same time in the Fallopian tube and that one impregnated ovule found its way into the cavity of the uterus and developed there, while the other developed in the Fallopian tube, and about the twelfth week a complete tubal abortion occurred; that is, the unruptured ovule with the placental attachment escaped into the abdominal cavity. Under the influence of this tubal abortion, uterine contraction set in and added uterine abortion to this condition. The abdominal pregnancy, very likely, continued to develop until the condition advanced to the seventh month of gestation, although the foetus appeared to be only a five-months foetus. It is a well-known fact that in these pregnancies the foetus is smaller than the estimated time of gestation. It is also seen, by the outcome of the case, that the foetus had been dead only a comparatively short time, because it is a recognized fact that, when the foetus has been dead for two or three weeks, the placenta becomes a foreign body and is loose in the abdominal cavity while in this case the placenta was so closely attached to the abdominal wall and broad ligament that serious hemorrhage occurred when separation was attempted. If the foetus had been dead a sufficient length of time, separation of the placenta would probably have occurred.

Irvin Abell (Closing): I have very little to add except to thank the gentlemen for their discussion and to agree with Dr. Wathen in what he said about death occurring from primary rupture in tubal pregnancy. I take it that, during the period this woman was at home, the hemorrhage from the rupture had practically ceased, and that the long trip to this city on a stretcher started up fresh bleeding, because, at the time the abdomen was opened, the tube was bleeding freely, and the presence of fresh blood in the cavity showed that it had been bleeding during the past twenty-four hours.

CONSERVATIVE DIGITAL SURGERY IN ACCIDENT CASES.

(Exhibition of Patient.)

BY W. E. FALLIS, LOUISVILLE.

The patient I am presenting tonight is a cooper by trade, who lost the first and second phalanges of the index finger, and the phalanx of the thumb of his right hand, in a cutting machine called a jointer.

The hand, being in a position of pronation, the members were completely severed, i. e., obliquely, from above downward, leaving only a flap of skin on the palmar surface of each, which, fortunately, was sufficient to cover the cut surfaces. The field was carefully cleansed and all sharp pieces of bone removed; the muscular surfaces were brought together loosely, covering the ends of the bones and avoiding undue pressure or constriction. The skin was then brought forward (making a long posterior flap) and closed with interrupted catgut sutures, leaving ample space for drainage. After twelve hours, hot saline solution was applied every two hours until the fourth day, after which a wet dressing, of equal parts of listerine and alcohol, was applied every two hours. The patient was allowed to get up on the second day with a splint on his arm for support, and after five days he was given all privileges.

The most important thing of all was the saving of every particle of the thumb and finger that was left by the knife in the jointer; absolutely nothing was taken away except the ragged edges of the skin and the sharp particles of bone. The man being a cooper would be unable to do his work without the aid of the thumb on his right hand, and by saving these members for him, he will be able to use a hammer or drawknife almost as well as before the accident, and with a little practice he will be able to write as well as ever.

DISCUSSION.

Albro. L. Parsons: I think Dr. Fallis is to be congratulated upon this case. There is no part of the anatomy where we should exercise greater conservatism than in the hand.

This reminds me of a case that I saw some time ago, in a negro who was run over by an engine. One leg was cut off between the knee and the thigh and the other below the knee; the right arm was cut off above the elbow, and on the left hand he had left only the little finger and the thumb. That man is now able to earn a living by selling papers.

J. Hunter Peak: Dr. Fallis has certainly obtained splendid results in this case, because these

injuries are usually not clean. Machinery is usually dirty and greasy and the danger is from infection.

It is very important to save all the structure we can, particularly of the thumb and index finger and especially on the right hand. I believe that the amount of finger and thumb that this man has left will be of considerable service to him.

Some time ago a young man came to my office who, while splitting wood, had completely amputated his left thumb, just where the nail joins the thumb. He was a piano player by profession. I suggested taking out a little piece of the bone to make a flap, and he said at once that it would interfere with his playing. I then told him that if he was willing to undergo treatment for several weeks it would likely grow out and he would have nearly as good a thumb as he had before. The plan was followed and to-day that man has almost as good a thumb on that hand as on the other.

It has been stated that the fingers will be tender or sensitive unless a proper skin flap is secured. My experience has been that this is not true.

The doctor is certainly to be congratulated upon the result in this case.

C. B. Spalding: I wish to congratulate Dr. Fallis upon the good result he has obtained in this case, and I would like to add just one thing; that sometimes, even where the bone has been cut entirely in two and the mass is hanging by a small portion of the skin, it is worth while to attempt to save it. I have seen instances of this kind and, by proper care even the bone would unite. I almost lost a joint of my own thumb once, and it was saved in that manner. I have also seen one or two other cases where the bone had been entirely severed, and naturally one would think that the only thing to do would be to cut it off, but if carefully sewed together and properly handled, quite frequently we can get good results in such cases. I do not agree with Dr. Peak that we must get the patient's consent to do this; it is for us to impress upon them that it is the only thing to do.

W.E. Fallis (Closing): I had no opportunity to try to save this man's bone, because it was left in the jointer. I have not had much experience along this line, this being my maiden attempt, and I am certainly pleased with the result.

I appreciate the discussion very much.

Diagnosis of Typhoid.—Wagner expatiates on the importance of bacteriologic confirmation of the diagnosis of typhoid citing a typical case of sepsis simulating typhoid, but after all, he says, the general impression of the clinician is the most important factor in differentiation.

MEDICAL PROGRESS

DEPARTMENT OF GENITO-URINARY AND SKIN DISEASES.

By HERBERT BRONNER.

THE FIELD OF CARBON-DIOXIDE SNOW.

Wm. S. Gottheil (N. Y. State Jour. of Med.):—Gottheil uses the solid carbon dioxide successfully in birth-marks of every variety and sizes; in port-wine stains, and angiomas, superficial and deep; in pigmentary, hairy and hypertrophic congenital deformities of all kinds, and even in cavernous angiomas. In leucoplakia and pre-cancerous keratoses, it has given him better results than any other method, and he knows no way so good to remove the warty and possibly degenerating growths that are not uncommon in the hands of X-ray workers. Rodent ulcer and superficial epitheliomas can be apparently cured. He says "apparently" advisedly, in view of his experience with radiotherapy in this field. Its effectiveness in the deeper infiltrating cancer of the skin is still *subjudice*, and the same is true of keloid and lupus vulgaris. It is entirely successful in the removal of senile warts, papillomas and other small tumors of the skin. Gun-powder stains and the imbedments of foreign matter in the skin can be removed by it, and in lupus erythematosus it is now his method of election.

II.—THE ETIOLOGY OF SYPHILIS.

E. Hoffman (Dermat. Ztschr.): Hoffman's conclusions, given in his lecture at the International Congress, at Budapest, are (1), that the spirochaeta pallida is without doubt the cause of syphilis; (2), the objections of Siegel are disproved and no longer mentioned. The finding of the spirochaeta pallida in the dental rootlets by Pasini is of interest as an aetiological factor in the production of Hutchinsonian teeth; (3), the demonstration of the organisms in primary and recent syphilitic lesions is of great value; it is also of value in secretions aspirated from the glands, and in scrapings from the tonsils where we find the germ during the latent stage; (5), the good results of the sero-diagnostic test do not lower the value of the examination for the spirochaeta pallida, especially in the beginning of the infection, when it is the only diagnostic index. The dark-field illumination, the quick-staining method of Preis, and the China-ink staining of Buri, produce rapid and accurate results and are of great service in doubtful lesions. While in the early stages staining is the superior

method, it is in the later stages and in parasymphilitic affections that the sero-diagnostic test must be relied upon; (6), there has been no progress in our knowledge of the morphology and the development of the spirochaeta pallida; (7), the pallida is usually found extra-cellular, in the lymph spaces and in the connective tissue, but it is also found in the parenchyma, connective-tissue cells, and in leucocytes; (8), Phagocytosis is important in the destruction of the organism, which is able to enter the protoplasm, as for instance of the ovum, through its own motility; (9), the method of reproduction of the pallida shows that it is a protozoan in nature. Hoffman thinks it really belongs to a group between the protozoa and bacteria. (10), That there is no reason for the name *treponema pallidum* instead of *spirochaeta*. (11), Former experiments to cultivate the organisms were negative. Muhlen, however, succeeded in cultivating from the extract of a luetic inguinal gland, a micro-organism which cannot be distinguished from the *spirochaeta pallida*. Vaccination with these cultures, however, failed to cause syphilis.

III.—TUMORS OF THE BLADDER.

E. S. Judd (Journal Minnesota State Med. Assn.): About one-fourth of one per cent of all tumors occur in the bladder, and they occupy about 3.9 per cent of all genito-urinary cases. Males are affected almost three times as often as females, and the disease is most prevalent in middle life. The most frequent, and also the most important tumors of the mucosa and submucosa are papillomata. In Judd's series of 56 operated cases, 42 were of this type. This type may recur, though the recurrence is not likely to occur at the site of the primary growth if it has been thoroughly removed. He has seen but two cases of scirrhous carcinoma and no cases of adenoma. Sarcoma and myxoma occur occasionally in children, though these types of the disease are not frequent. In Judd's series there was one angioma. Most tumors of the bladder are located in the base, in the vicinity of the urethral orifices or near the orifice of the urethra. Little is known as to the etiology of bladder tumors. The early and characteristic symptom of tumor of the bladder is painless haematuria. This was observed to be the first symptom in more than half of his cases. Bleeding may occur at intervals, the urine appearing clear for weeks or months at a time. All of the urine may be bloody, and, again, it may show blood only during the first few drops. Frequency and burning are usually associated with the bleeding. If the tumor lies close to the urethral orifice, pain and obstruction will be an early symptom.

Diagnosis of bladder tumors can be made by the cystoscope alone. If left alone, benign tumors may cause death by extension, repeated hemorrhages, or from pyelo-nephritis following cystitis. Small pedunculated growths may be removed through the urethra with the operating cystoscope, provided one is skilled in the use of the instrument. If the tumor is in one of the upper quadrants, the suprapubic incision gives a good exposure. In case the tumor has its attachment at or near the base, Judd uses a trans-peritoneal incision. No leakage occurred in any of the cases where the incision was made through the peritoneum. On account of the high morality, unsatisfactory existence to the individual, and results generally following complete extirpation of the bladder, he feels that it is seldom, if ever, advisable to recommend this procedure.

IV.—INFECTIONS OF THE URINARY TRACT DUE TO THE BACILLUS-COLI AND ALLIED ORGANISMS.

Dudgeon and Ross (Annals of Surgery): The cases of bacillus-coli infection group themselves into acute and chronic. The acute cases are particularly liable to be mistaken for an acute infection of any kind when first seen, according to the direction in which the various signs and symptoms may seem to point. In all cases of bacteriological examination of the urine is necessary to confirm a diagnosis of colon bacilluria. In these acute cases there may be a rigor, followed by a fever. There is usually frequency of micturition and pain; the urine is acid and turbid. In chronic cases the symptoms are often obscure. The importance of a thorough bacteriological investigation of the urine is a *sine quo non*, both from the standpoint of diagnosis and also of treatment. The writers prefer the term "pyuria" of pregnancy to "pyelitis," "pyelo-nephritis," etc., on the ground that these terms make a definite assumption as to the exact site of the lesion in the urinary tract—an assumption which often lacks proof. Extended observation has afforded many instances of pyuria of pregnancy in which there has been an acute infection of the urinary tract by the group of micro-organisms now under consideration. Some of these cases have been treated by a vaccine and some sera. The results have, on the whole, been satisfactory, for the temperature became normal, the constitutional symptoms disappeared, and a complete recovery from the pyuria ensued. More often, however, while a recovery, satisfactory in every way to the clinician, occurs, the state of the urine still remains abnormal, viz: the bacilli

are present and pus may or may not continue to be present. In most instances, patients suffering from an infection of the urinary tract, whether acute or chronic, show a low opsonic and phagocytic index. In chronic cases the index was low in almost every example examined. Treatment by the vaccines causes a general rise in the index, as is also the case when anti-coli serum is employed, but sometimes the index remains low in spite of treatment. In acute cases excellent results have been obtained by giving the anti-bacillus-coli serum. This serum is given in doses of 25 c.c., spread over 72 hours, and it is essential for the patient to remain in bed about a week during the course of treatment. In acute cases during pregnancy, and in old people, it is safer to give the vaccine, as occasionally severe constitutional symptoms follow the serum treatment. For chronic and sub-acute cases, if treatment is undertaken, it should undoubtedly be by means of vaccines. In the latter stages of acute cases, distinct benefit has been noted when the anti-coli serum was supplemented by a vaccine. The importance of preparing the vaccine from the patient's own micro-organisms cannot be overestimated. With regard to dose, the writers have both tried the large dose every ten days and the smaller ones every five days, and are of the opinion that small doses of between 100,000,000 and 200,000,000 bacilli, administered every five days, give the best results.

V.—THE ETIOLOGY OF PSORIASIS.

S. Pollitzer (Journal of Cutaneous Diseases): Leaving out of consideration, as unworthy of serious discussion, a great number of hypotheses concerning the nature of psoriasis, there are a few important theories of its origin to deal with. First, that it depends upon constitutional changes associated with rheumatism and gout; second, that it depends upon a disturbance in the nervous system; third, that it depends upon hereditary predisposition, and fourth, that it is due to purely local and external causes.

Pollitzer dismisses the possibility of rheumatism being the cause of psoriasis with the statement that rheumatism is an extremely common affection and psoriasis is not altogether rare, and both are essentially chronic diseases. To find the two conditions occasionally associated together is only natural, and has not necessarily more significance than that a psoratic should occasionally suffer from headache and indigestion.

Of the role of the nervous system in the production of psoriasis, he concludes that there is little ground for the assumption of any direct influence; that cases adduced in

favor of this view are very rare and may be examples of *post hoc ergo propter hoc* arguments, that what we know about the direct influence of the nervous system in the production of skin diseases is opposed to this view, and that, at most, the influence of shock, depression, etc., can only be an indirect one.

As to heredity, Pollitzer is quite as convinced of the significance of heredity in psoriasis as of its importance in leprosy and scabies.

This brings the writer to a consideration of the last of the theories; that psoriasis is an infectious disease of local and external origin. His conclusion is that, while direct evidence of the parasitic nature of psoriasis is still to be found, the collateral evidence has considerable weight. This evidence is based on analogy with known mycotic diseases, the development of the lesions, their peripheral extension, their circinate form, their healing or fading out of the center as in an old colony on a plate culture, and, finally, on the efficacy of antiseptic treatment.

VI.—CAUTERIZATION AND CUBBETTING AS A TREATMENT FOR CHANCROIDS.

Victor C. Pederson and Edward H. Marsh (Amer. Jour. of Surgery): The plan of treatment suggested by the writer is as follows: The lesion is cleaned with water and gauze. Then cocaine, or other local anesthetic, is liberally applied for five or ten minutes. Next any ordinary liquid caustic, preferably nitric acid, is flooded upon the sore, care being taken to work it well beneath the overhanging edges and into the pockets, and, on the other hand, to prevent it from reaching sound skin. After the acid has been given several minutes in which to act, the lesion is wiped dry with blotting paper, and then, with a sharp curette, the slough is thoroughly and deeply removed until clean, smooth, healthy-looking tissue is reached. This surface is now carefully and systematically painted with a ten per cent nitrate of silver solution, with especial reference to the overhanging edges and pockets. When the silver nitrate has produced a delicate white pellicle everywhere, an ordinary wet dressing is applied.

It is claimed that one such treatment, properly administered, will convert a large, ugly chaneroid into a clean, healthy surface, which will heal in a few days. When this method fails and a repetition is necessary, it is almost invariably because too little acid was used, or the acid treatment was too brief and thereafter the curettment was not deep enough.

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KENTUCKY MEDICAL JOURNAL.

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION.


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VOL. VIII.  BOWLING GREEN, KY., SEPTEMBER 15, 1910. No. 18

EDITORIAL.

THE LEXINGTON MEETING.

Again the JOURNAL brings to each of its readers its annual message of the work accomplished by the Association and the County Societies during the past year. Each member may also read the Constitution and By-Laws of the Association and the Medical Defence Branch.

The attention of our readers, the large majority of whom are members of the Association, and, therefore in reality, shareholders both in its work and responsibilities and in its fiscal affairs, is especially called to the report of the Council containing the Auditor's report on the records of the Secretary and Treasurer, and the reports of the Business Manager of the JOURNAL, the Chairman of the Medical Defense Branch and your other officers.

All of these matters not only need, but demand our careful attention. Every physician in Kentucky is equally interested in all of it. No action is or can be taken in a democratic organization like ours without the affirmative vote of a majority of the delegates, who, in turn, are chosen, and may be instructed by the county societies.

It is interesting to note from the reports that nearly half of our members have contributed to the reading matter contained in the columns of the JOURNAL during the past year. In 1907 there were 644 members registered in attendance. Last year there were 651 registered present. These figures mean that one-third of the members of our Association were present and participated in the work of sessions.

The members of the Fayette County Medical Society extend a cordial invitation to every medical man in Kentucky to come and

bring his wife. Let us all together make this the banner meeting in the premier city of the Blue Grass.

THE OLD PHYSICIANS' HOME.

The proposition for an "Old Physicians' Home," originated by the Christian County Medical Society and presented to the House of Delegates two years ago by Dr. Weathers, of Todd County, is still pending. This entirely meritorious plan is entirely feasible and should be put into operation. Nothing appeals more strongly to the young and active than those who have become aged and decrepit in the service of those suffering from disease. It is hoped that the practical difficulties about the inauguration and management of any new plan of action may be overcome, and that the "Old Physicians' Home" may soon become a reality and not a dream.

THE MEDICAL DEFENSE.

As will be seen from a careful reading of the reports of the Chairman of the Medical Defense Branch and of the Secretary, this particular activity of the Association demands careful study and consideration. Of the 156 physicians who joined this branch 144 renewed their membership this year, and to those have been added 64 new members, making the total membership 208 out of a total membership in the Association of 1,872 all of whom are eligible to membership and every one of whom needs the protection. Since its inauguration two years ago twelve suits against our members have been brought or threatened. Only one has gotten so far as to actually have the papers filed and it was dismissed upon motion of our attorneys. During the same time twelve suits have been brought against non-members. Eight of these have gone to trial and five of these

have been decided against the defendant doctor—in every case but one certainly unjustly.

It is important for the profession generally to realize that a suit unjustly decided against some other doctor is a distinct danger—a distinct financial shrinkage in the capital invested on himself and his education and preparation—and that this is a distinctly preventable danger. For this reason those best informed in other States view with doubt the necessarily restricted membership of our Medical Defense. The Council, realizing that this is probably the most vital question now confronting the organization has invited Dr. Edmund F. Weis, the President of the Association of State Secretaries and Editors, and Secretary of the Illinois State Medical Association, to read a paper on the subject before the House of Delegates on the first day of the session. Dr. Weis is a recognized authority on the subject and we are sure we shall all reap the benefit of the discussion he will start on this subject.

IMPORTANT WORK OF DR. CARPENTER.

In the hope of inciting others to emulate it, the attention of the profession is called to the life-saving campaign being conducted in Lincoln county under the leadership of Dr. J. G. Carpenter, of Stanford. He is speaking to popular audiences, usually twice on Sunday and once or twice during the week, the meetings being held in churches and school houses, ministers, teachers and other leaders of public opinion, joining heartily in the discussions. The work is entirely educational, the burden of the lay sermons being to tell the people in a plain, practical way how and why typhoid fever, tuberculosis, diphtheria, cholera infantum and the other domestic pestilences which lay such a heavy toll upon health and life in Kentucky every year can be prevented with far less trouble and cost than is now required to care for the sick and bury the dead from these diseases. Dr. Carpenter is not a rich man, but is a busy and successful surgeon, and his example is the more important in view of the proposal of the State Board of Health to divide the State into ten or more sanitary districts with a superintendent in each to join the county societies and health officials in just such a campaign as this in every county.

RAILROAD RATES TO LEXINGTON.

All railroads in Kentucky have issued a special rate to the Lexington meeting. This also applies from Cincinnati, O. Tickets may be bought three days before the meeting, not counting Sunday, and no special rate tickets

may be secured except after September 27th. Buy your ticket straight through to Lexington *and be sure to get the agent to give you a certificate-receipt.* When you register in the office of the Secretary in the Commercial Exhibit on the main floor of the Y. M. C. A. Building at Lexington, Miss Mayme Sullivan, our Clerk, will indorse your certificate and upon presentation to the ticket agent this will entitle you to a one-fare return trip rate, plus 25 cents.

MERIT ALONE CONSIDERED IN OUR EXAMINATIONS.

In spite of the fact that the law requires that all examinations for certificates to practice medicine in Kentucky "shall be conducted in writing, and in such manner that the result shall be entirely fair and impartial, the applicants being known by numbers so that no member of the board shall be able to identify the papers of any applicant until they have been graded and the case passed upon," well informed physicians and officials write members of the board continually asking that certain applicants, relatives or friends, be favored in the grading of their papers. A member could only do this by violating his solemn oath of office. From the day the law went into effect no member has ever known the number of a single applicant, and never will so long as they are honest in the discharge. One member has voted twice to defeat his own brother and did not know it until the name was read out from the cards which had remained sealed until the grading was completed and it was determined what members had passed. This places all on the same footing, giving every applicant an absolutely square deal. It is important that this be understood once for all, so that medical students may apply themselves instead of going through college in the vain hope that family or political pull will help them in their day of trial. We have enough low-grade doctors in Kentucky who cannot be induced to attend their country or state societies or improve themselves by other post-graduate work and it is gratifying to know that the law provides against any increase in this class through favoritism or otherwise.

PHYSICIANS' INCOMES.

THE MEDICAL CARE OF THE POOR.

It was the "Great Physician" who said, "The poor ye have with you always." These words might, with especial fitness, have been spoken to physicians. All the world-renowned philanthropists of the ages are dwarfed to insignificance when compared to the contribu-

tion of the medical profession to the care of the indigent. No study of physicians' incomes would be complete without an examination of the medical care of the poor.

We have them in three classes: the Lord's poor, the devil's poor and the poor devils. It was not a physician who so classified them, for all the poor look alike to the doctor. His query has not been, "Have you dollars?" but, "Have you disease?" We have gladly served without charge the few good people who have come to want. We have not withheld succor from the few outrightly wicked who through their evil are in distress. We have not been deaf to the cry of need from that far larger number who are so constituted, physically, mentally or morally, as to be helpless or inefficient; whose low earning power, injudicious expenditure and bad management render unable to meet their financial obligations. Their creditors must be the losers, and the physician, whose business is naturally a credit transaction in most cases, becomes a chief sufferer.

While we are unwilling that any shall lack medical care by reason of poverty, it is still pertinent to inquire whether we are wise in our promiscuous charity. Who should care for the sick poor? First, the charity hospitals where the clinical material thus supplied should be utilized for special training to the staff and for bedside and post-mortem instruction to students, internes and nurses. By this means the charity hospital should render the very best of medical service and provide the highest order of medical experience and instruction. Second, the public physician who should be adequately paid and properly equipped and supplied for his work. The one thing in the medical care of the out-door poor more expensive than the cheap armamentarium the public usually provides is the cheap doctor it usually secures to handle it. In medicine there is nothing so dear as cheapness.

Third, the young practitioner who has time, will benefit by the experience, and who can more readily collect at least a portion of the bills. The busy practitioner should cut off the non-paying part of his clientele and devote himself to a high order of service among the smaller number who pay for the best. A certain physician in the writer's knowledge began his practice by responding to all calls and collecting all bills as far as possible without undue hardship to the poor. He gained experience, acquaintance, respect and some money. In time he found himself making a good living. Thereafter as he gained a good patient he cut off two bad ones and gave his time to improving the quality of his work. If this practice were the universal custom in our profession the poor would still be

properly cared for, there would be fewer unpaid doctor bills and we should have the time and the means for a better quality of work than we are now doing.

Our habit of measuring professional success by quantity rather than quality is a favorite way of wronging ourselves and the public. So long as we continue to strive for a large practice we will continue to work for small fees or for nothing and necessarily fall short of the best service and income.

W. A. W.

SCIENTIFIC EDITORIALS.

LEST WE FORGET.

In view of the fact that we are now on the eve of the Kentucky State Medical Association, and that there is likely to be more or less discussion upon the subject of asylums for the insane, and fearing that some unforeseen circumstance might prevent my being present, I am taking advantage of this opportunity to say just a few things to my brother members of the profession, which came into my mind just after the meeting in Louisville last year, some of the most interesting sessions of which I was unable to attend.

There has seemed to be a disposition, upon the part of just a few of the members of our profession, who have been prominent upon the floor of the State Association for the past few years, to take a crack at our institutions whenever the opportunity was offered, and if not, to even depart from the subjects which were being discussed at the time and which could have suggested a discussion of the asylums only in the very remotest way. And I am sorry to say that some of this discussion, however kindly it may have been meant, has gotten into the daily press, and been twisted in such a way that it has often caused the officials of the institutions no little annoyance. We have had relatives of inmates come to us and ask: "Are the asylums really as bad as the papers say?"

Now, while we know that the institutions of this State are not what they should be, and are not what we would like for them to be, yet we must call attention to some facts which really exist, and about which the great majority of the profession in this State is so little informed. Those of you who have had an opportunity to visit our institutions within the past few years or have kept in touch with what we are doing, know the facts in the case, and we have always been glad to have you come and see. And when one of you who knows what we are doing, with the small amount of funds at our disposal, has taken the opportunity to discuss us, we have always

been pleased; but when some, who have not been inside of a single asylum in this State for years, nor have read one of its reports, take occasion to tell your society that we are only jailers; that our methods are antiquated; that we hold our positions purely on account of political influence, without regard to ability, and that we are not progressive, we consider that it is high time to call a halt, assert ourselves, and refer you to the facts.

If you, who have heard so much about sinusoidal currents, auto-conduction, auto-condensation, vibratory massage and hydro-therapy, during the past few years, will take the trouble to investigate, you will find that the use of electricity has been almost entirely discontinued in the treatment of the insane by the very best and most modern institutions in this country and abroad; that hydro-therapeutic measures are still in favor, but installed at a very great expense, some of which are being discontinued, and that the results where all of these measures have been used, are not very different from those that preceded. We certainly do not have enough per capita (\$150 per year) to maintain our institutions as they are, much less would we be warranted in expending large sums yearly to take up every fad and fancy that might be suggested to you by the essayists upon the floor of your Society or in your journals, from year to year. And I wish to say, by the way, that we are getting just about as good results, here in the South, as are the Wise Men in the East, and it is ridiculous for one to tell us that we must go outside of our own continent to study the care of the insane. We have the very best institutions in America that can be had, and all of us have access to any of these whenever we want to see them. I have had the pleasure, recently, to see some of the best institutions in America, and I, myself, know what they are doing and how much money they are spending. A great deal of time and money can be spent on laboratory and original research work in these institutions, where there is an abundance of physicians and plenty of money, but until we have an increased per capita and plenty of money to support our institutions, we can not possibly take up such things, nor can we install therapeutic equipment of any consequence.

Those of you, who are informed, know that our institutions are now under the supervision of a Bi-partisan Board of Control; that they have been largely divorced from politics; that there are a number of men in the service now who have been in the institutions for several years, and have made a special study of insanity; that to know the insane is to live with them, and that those who are best fitted to tell you about the institutions of this State,

and best equipped to stand upon your committees for the betterment of these institutions, are those who have lived in them, know what they are and what they need. We must be practical, and not altogether theoretical, when it comes to our charitable institutions. The physician who treats mild neurosis and psychotheric cases with electricity and hydrotherapy, and gets results, cannot come into our asylums and cure our epileptics, imbeciles, chronic demented and paralytics.

W. E. GARDNER.

OFFICIAL CALL

THE FIFTY-FIFTH ANNUAL SESSION OF THE
KENTUCKY STATE MEDICAL ASSOCIATION,
TO BE HELD IN LEXINGTON
SEPTEMBER 27-29, 1910.

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association:

The Fifty-fifth Annual Session of the Kentucky State Medical Association will convene in the Auditorium of the Young Men's Christian Association, Lexington, Kentucky, on Tuesday, Wednesday and Thursday, September 27, 28 and 29, 1910.

THE HOUSE OF DELEGATES.

The House of Delegates of the Kentucky State Medical Association will convene in the Young Men's Christian Association Building, Lexington, Kentucky, at 1:30 p. m., on Monday, September 26, 1910.

FIRST GENERAL SESSION.

The First General Session, which constitutes the opening exercises of the scientific functions of the Association will be held in the Auditorium of the Young Men's Christian Association, Lexington, Kentucky, at 9 a. m., Tuesday, September 27, 1910.

THE COUNCIL.

The Council will convene in the office of the Young Men's Christian Association at 11 a. m., Monday, September 26, 1910.

THE MEDICAL DEFENSE.

The Executive Committee of the Medical Defense Branch will convene in the office of the Young Men's Christian Association at 11:30 a. m., September 26, 1910.

THE SECRETARIES OF COUNTY SOCIETIES.

The Association of Secretaries of County Societies will meet in the Y. M. C. A. building at 5 p. m., Monday, September 26, 1910.

THE REGISTRATION DEPARTMENT.

The Registration Department will be open in the Exhibit Hall, on the main floor of the Young Men's Christian Association Building,

Lexington, from 10 a. m. to 7 p. m., on Monday, September 26; from 8 a. m. to 7 p. m., Tuesday and Wednesday, September 27 and 28, and from 8 a. m. to 11:30 a. m. on Thursday, September 29.

APPORTIONMENT.

Each chartered component county society will be entitled to the number of delegates opposite its name on the following list. Each society is entitled to one delegate for each twenty-five members, or major fraction thereof, whose dues have been paid to the State Association.

Adair	1	Christian	1
Allen	1	Clay	1
Anderson	1	Clay	2
Ballard	1	Clinton	1
Barren	1	Crittenden	1
Bath	1	Cumberland	1
Bell	1	Daviess	3
Boone	1	Elliott	1
Bourbor	1	Estill	1
Boyd	1	Fayette	3
Boyle	1	Fleming	1
Bracken	1	Floyd	0
Breathitt	1	Franklin	1
Breckenridge	1	Fulton	1
Bullitt	1	Gallatin	1
Caldwell	1	Garrard	1
Calloway	1	Grant	1
Campbell-Kenton	4	Graves	1
Carlisle	1	Grayson	1
Carroll	1	Green	1
Carter	1	Hancock	1
Casey	1	Hardin	1

Harlan	1	Metcalf	1
Harrison	1	Monroe	1
Hart	1	Montgomery	1
Henderson	1	Morgan	0
Henry	1	Muhlenburg	1
Hickman	1	Nelson	1
Hopkins	1	Nicholas	1
Jackson	1	Ohio	1
Jackson	1	Oldham	1
Jefferson	6	Owen	1
Jessamine	1	Owsley	1
Johnson	1	Pendleton	1
Knott	1	Perry	0
Knox	1	Pike	1
Larue	1	Powell	1
Laurel	1	Pulaski	1
Lawrence	1	Robertson	1
Lee	1	Rockcastle	1
Leslie	1	Rowan	1
Letcher	0	Russell	1
Lewis	1	Scott	1
Lincoln	1	Shelby	1
Livingston	1	Simpson	1
Logan	1	Taylor	1
Lyon	1	Todd	1
McCracken	2	Trigg	1
McLean	1	Trimble	1
Madison	1	Union	1
Magoffin	0	Warren	3
Marion	1	Washington	1
Marshall	1	Wayne	1
Mason	1	Whitley	1
Meade	1	Wolfe	1
Menifee	1	Woodford	1
Mercer	1		

ISAAC A. SHIRLEY, PRESIDENT.

A. T. McCORMACK, SECRETARY.

PRELIMINARY PROGRAM

OF THE

Scientific Session of the Fifty-fifth Annual Meeting of the Kentucky State Medical Association to Be Held at the Young Men's Christian Association Building, Tuesday, Wednesday and Thursday, September 27, 28 and 29, 1910.

PROGRAM

TUESDAY, SEPTEMBER, 27, 1910.

MORNING SESSION—FIRST DAY, 9 A. M.

Call to Order.....By the President, I. A. Shirley, M. D.
 Opening Prayer..... By Bishop L. W. Burton.
 Address of Welcome, by Hon. Samuel M. Wilson, Lexington.
 Response.....By D. M. Griffith, M. D., Owenboro.
 Address of the President.—“Preventive Medicine”
 By Joseph E. Wells, M. D., Cynthiaana.
 Installation of the President.
 Report of the Chairman of the Committee on Arrangements
 F. H. Clark, M. D., Lexington.

SCIENTIFIC SESSION—10 O'CLOCK.

I.—SYMPOSIUM—“The Diagnostic Significance of Head-ache”
 1.—“To the Internist”
 By J. W. Kincaid, M. D., Catlettsburg.
 2.—“To the Surgeon”
 By A. D. Willmoth, M. D., Louisville.
 3.—“To the Specialist in Eye, Ear, Nose and Throat”
 By M. C. Dunn, M. D., Henderson.

II.—“The Present Status of Serum and Vaccine Therapy”
 By F. H. Montgomery, M. D., Danville.
 III.—“The Physician's Interest in Vital Statistics”
 “By Cressy L. Wilbur, M. D., Chief Vital Statistician,
 Bureau of the Census, Washington, D. C.”
 IV.—“The Necessity for Properly Selected and Compensated City and County Health Officers”
 By J. N. McCormack, M. D., Bowling Green.

SPECIAL ORDER AT 12 M.

Address in Surgery—“Abdominal Crises Caused by Pathological Changes in Meckel's Diverticulum Other Than of Strangulation by Band”
 By George A. Hendon, M. D., Louisville.

TUESDAY, SEPTEMBER 27, 1910.

AFTERNOON SESSION—FIRST DAY—2 P. M.

I.—“Splenic Anaemia”
 By B. E. Giannini, M. D., Coalmont.
 II.—SYMPOSIUM: “Diseases of Liver and Bile Passages”
 1.—“Diagnosis and Treatment of Cirrhosis”
 By G. W. Payne, M. D., Bardwell.
 2.—“Diagnosis and Treatment of Cholecystitis”
 By Irvin Abell, M. D., Louisville.

- 3.—"Diagnosis and Treatment of Abscess of the Liver".....By J. I. Rathburn, M. D., Russell.
- 4.—"Differential Diagnosis of Gall Stones"
By W. A. Guthrie, M. D., Franklin.
- III.—"The Etiology, Diagnosis and Treatment of Pellagra"
By W. F. Stirman, M. D., Owensboro.
- IV.—"State Care of the Insane in Kentucky"
By Curran Pope, M. D., Louisville.
- V.—"Present Status of Surgery of the Thoracic Cavity—
Applied and Experimental"
By W. E. Senour, M. D., Bellevue.
- VI.—"Direct Transfusion and Blood Vessel Sutures, With
Experimental Demonstration"
By Louis Frank, M. D., Louisville
- VII.—"The Practical Value of Electricity in Diagnosis and
Treatment of Disease"
By J. J. Rodman, M. D., Owensboro.
- FIRST DAY.

EVENING SESSION—8 P. M.

"The Responsibility of the State in the Care of its Dependents."

Annual Oration.....By Frank Billings, M. D., Chicago.
WEDNESDAY, SEPTEMBER 28, 1910.

SECOND DAY—MORNING SESSION—9 O'CLOCK.

GENERAL SURGICAL SECTION.

- I.—SYMPOSIUM: "Surgery of the Skull":
1.—"Indications for and Technique of Decompression"
By E. S. Allen, M. D., Louisville.
2.—"Fracture of the Base"
By D. C. Donan, Jr., M. D., Horse Cave.
3.—"Intracranial Complications of Middle Ear Disease"
By Gaylord C. Hall, M. D., Louisville.
- II.—Water Supply and Sewage Disposal"
By Paul Hansen, M. D., State Sanitary Engineer,
Bowling Green.
- III.—SYMPOSIUM: "Cancer"
1.—"Breast"....By J. T. Reddick, M. D., Paducah.
2.—"Uterus"
By W. H. Wathen, M. D., Louisville.
3.—"Gastro-Intestinal Tract"
By John H. Blackburn, M. D., Bowling Green.
4.—"Uro-Genital Tract."
By Carl Lewis Wheeler, M. D., Lexington.
- IV.—"Inguinal Hernia"
By Benj. F. VanMeter, M. D., Lexington.
- SPECIAL ORDER AT 12 M.

Address in Medicine—"Something Old and Something New
in Medicine"

By D. O. Hancock, M. D., Henderson.

AFTERNOON SESSION—SECOND DAY—2 P. M.

GENERAL MEDICAL SECTION.

- I.—"Diagnosis and Treatment of Enterocolitis"
By E. A. Stevens, M. D., Mayfield.
- II.—"Neurasthenia"....By W. F. Boggess, M. D., Louisville.
- III.—SYMPOSIUM: "Nephritis."
1.—"Diagnosis and Treatment of Acute Nephritis"
By W. R. Thompson, M. D., Mt. Sterling.
2.—"Chronic Nephritis"
By S. L. Beard, M. D., Shelbyville.
3.—"Pyelo-Nephritis"
By O. P. Nuckols, M. D., Pineville.
- IV.—"Uncinariasis"
By C. W. Stiles, M. D., United States Public Health
and Marine Hospital Service, Washington, D. C.
- V.—"Popliteal Aneurism, With Report of Matas' Opera-
tion".....By John R. Murnan, M. D., Covington.
- VI.—"Medical Expert Testimony"
By Hon. Edward J. McDermott, Chairman Commit-
tee on Expert Testimony, Kentucky State Bar As-
sociation, Louisville.
- VII.—"Remote Sequelae in Mistreated Cases of Syphilis"
By J. T. Windell, M. D., Louisville.
- VIII.—"A Pharmacological Consideration of the Pituitary
Gland, (An Experimental Demonstration)"
By Virgil E. Simpson, M. D., and W. H. Mac
Craken, M. D., Louisville.

THURSDAY, SEPTEMBER 29, 1910.

MORNING SESSION—THIRD DAY—9 A. M.

- I.—SYMPOSIUM: "Diseases of Children"
1.—"The Prophylaxis and Treatment of Acute Gastro-
Enteric Infection"
By J. M. Rees, M. D., Cynthiana.
2.—"The Prophylaxis and Treatment of Scarlet Fever"
By J. S. Lock, M. D., Barbourville.
3.—"Typhoid Fever"
By F. D. Cartwright, M. D., Bowling Green.
4.—"The Prophylaxis and Treatment of Measles"
By T. A. Frazer, M. D., Marion.
5.—"The Prophylaxis and Treatment of Diphtheria"
By F. L. Lapsley, M. D., Paris.
6.—"The Prophylaxis and Treatment of Pneumonia"
By J. C. S. Brice, M. D., Flemingsburg.
7.—"Sexual Education"
By H. J. Farbach, M. D., Louisville.

COUNTY SECRETARIES.

The second annual meeting of the Association of County Secretaries will be held on Monday evening preceding the general session of the Kentucky State Medical Association. The following program has been arranged:

- "The Aims and Designs of This Association"
Hugh D. Rodman, Bardstown.
"The Relation of the Councilor to the County Society"
B. F. Zimmerman, Louisville.
"Membership and Attendance".....B. E. Giannini.
"My Experiences as a Secretary"....L. G. Conti, Milton.
"How Can the County Society Meetings Be Made More
Interesting".....T. A. Frazer, Marion.
"What Can the County Secretary Do for the JOURNAL?"
A. Skaggs, Morehead.
"What Can the JOURNAL Do for the County Secretary?"..
B. M. Taylor, Greensburg.

HUGH D. RODMAN, PRESIDENT.

COMMERCIAL EXHIBIT AT LEXINGTON.

For the first time in the Association's history the Commercial Exhibit will be under the direct control of the Council, which will stand for the reputability of every firm represented. The entire first floor of the Y. M. C. A. building will be devoted to the Commercial Exhibit and the Registration Bureau. In addition to the exhibits of the firms mentioned below, valuable educational exhibits will be shown by the State Pharmaceutical Association, The Pure Food and Drug Bureau, the United States Bureau of Animal Industry and State Board of Health, and the Kentucky Anti-Tuberculosis Association. Careful inspection of the exhibits is urged on every member in attendance.

ABBOTT ALKALOIDAL COMPANY.

The Abbott Alkaloidal Company will exhibit a select line of alkaloidal and active-principle granules and tablets, and other preparations. They will also endeavor to present the advantages of the active-principle remedies as compared with the galenicals, es-

pecially as regards concentration, portability, palatability, accuracy of dosage and certainty of result.

This exhibit will also contain a few Council-passed remedies, such as Nuclein (Abbott) Neuro-Lecithin and Bilein. A special feature will be a demonstration by skilled workmen of the methods employed in making granules and tablets. These will be actually manufactured in the Abbott booth, thus giving visitors an opportunity to see certain details with which most physicians are not familiar.

A visit to the exhibit of this modern, progressive and rapidly growing house promises to be unusually interesting.

D. APPLETON AND COMPANY.

This well-known firm has long been a favorite of the profession of Kentucky. It will have on hand its full line of the most recent medical works.

HORLICK'S MALTED MILK.

However much the ordinary business man may appreciate the value of theoretical work in any line, still practical experience combined with research carries vastly more weight with him. We have in mind at this moment the problems connected with the constitution of malt, and the best method of preparing and treating it, so as to obtain all the nutritious ingredients, as well as the highest value of the enzymes normally present. We think much credit should be given to Horlick's, who in the past third of a century have been exploiting from the manufacturing point of view the possibilities of malt as an ingredient of food products.

Beginning with the simplest form, viz.: that in which we have only the extract of malt—"Diastoid"—they have proceeded by regular steps to Horlick's Food, a product containing the extract of malt and choice wheat (to which milk must be added to form a complete food).

The next great step in their work was that of successfully preparing the extract of malt and wheat with pure, rich milk, so as to present in Horlick's Malted Milk, a food in powder form which could be kept indefinitely, transported to any part of the world, and invaluable as a delicious food, either in liquid or Tablet form, and always ready at a moment's notice.

This, the original and genuine Malted Milk has become well and favorably known to the medical profession as a reliable substitute for mother's milk, and a valuable dietetic adjunct in the treatment of all diseases involving, either directly or indirectly, the intestinal tract. In thousands of homes it has replaced coffee and tea as a nutritious beverage,

or food-drink, as it is aptly called, free from any "after-effects."

It is also to be noted that by no one are food values more carefully weighed than by Arctic explorers, and that no Arctic expedition, for a score of years, has departed without a supply of "Horlick's" in powder and lunch tablet form.

THE MALTINE COMPANY.

The Maltine Company will exhibit Maltine, the standard extract of malt, and its various preparations, together with the crude products which enter into their composition, such as malted barley, wheat and oats, cascara bark, cod liver and olive oils, yerba santa leaves, and such salts as strychnia, quinia, pyrophosphate of iron, hypophosphites, etc.

The representatives of the company will be equipped to demonstrate the high diastasic power of the Maltine compounds, their miscibility, etc., and will introduce a new preparation, Maltine with Olive Oil and Hypophosphites.

Olive Oil has of late attracted considerable attention, and is now prescribed largely by many physicians, as it has none of the unpleasant features of cod liver oil and is believed to be fully as efficacious. The olive oil used by The Maltine Company is the finest Italian oil procurable, and is specially imported, so that absolute purity is assured.

THE WILLIAM MEYER COMPANY.

This Chicago house will have on exhibition a line of electrical appliances that will be a revelation to every one who sees them. Rapid advancement in both diagnostic and therapeutic methods is almost beyond belief, and all of our members will be delighted with this exhibit.

THE CHAS. H. PHILLIPS CHEMICAL COMPANY.

Phillips'

Milk of Magnesia

"The perfect antacid"

Local and systematic antacid and corrective.

Invaluable in all intestinal disorders of infant, child and adult life.

Phillips'

Phospho-Muriate of Quinine

Tonic, Reconstructive and Antiperiodic, with marked beneficial action upon the nervous system. To be relied upon where a deficiency of the phosphates is evident.

Phillips'

Digestible Cocoa

The Cocoa with a rich chocolate flavor.

SHARP AND SMITH.

We beg to announce to our readers, Sharp & Smith, of Chicago, expect to have a repre-

sentative in attendance at our forth-coming State Meeting, to be held at Lexington, Kentucky, September 27-29, with a complete sample line of the latest and most improved patterns of surgical instruments, leather goods and kindred supplies. Members expecting to be in attendance should make a note of their requisites, as we earnestly believe their wants can be supplied by our exhibitors.

THE TERRE HAUTE INHALATORIUM CABINET CO.

The Terre Haute Inhalatorium Cabinet Co., Terre Haute, Ind., spaces 14 and 16, will contain an exhibit of the Inhalatorium manufactured by the company. All progressive physicians will be interested in this exhibit. The Inhalatorium is used in treating catarrh, hay fever, bronchitis, asthma, and pulmonary tuberculosis by means of volatilized medication. The number of Inhalatoriums in use and the endorsements by physicians in various parts of the country warrant us in calling your attention to it specially. Do not fail to see this exhibit.

REED AND CARNRICK.

The announcement carried on the outside cover of the JOURNAL has brought this firm prominently before the profession of Kentucky for many years. It has been especially interested in physiological therapeutics as distinguished from the ordinary lines of drug therapy.

VICTOR ELECTRIC COMPANY.

This old firm is familiar to every one interested in electrical therapeutics from its vibrator to its X-Ray machines. Its products have long been held as standard and it is with particular pleasure that we commend them to the profession.

HENRY K. WAMPOLE AND CO., INC.

The exhibit of Henry K. Wampole & Co., Inc., will consist of a line of samples of their pharmaceutical products, the design of the exhibit being to indicate to physicians the skill and ability of the company to prepare for the physician, in a large way, those official and unofficial, but frequently used, preparations in which, while therapeutic value and accuracy of dosage are the prime features, permanence and elegant appearance are likewise of considerable importance. Their line includes Pulverous Pills, Compress and Hypodermic Tablets, Fluid Extracts, Elixirs, Syrups, Solutions, Wines, Tinctures, Ointments, Cerates, Effervescent Salts, Soft Elastic Filled Capsules, etc., etc., in addition to their well-known Pharmaceutical Specialties, specimens of which, notably their Bismuth-Hydrate Comp., Glycerodine and Colchi-Methyl Capsules will be exhibited.

THE MAX WOCHER AND SON CO.

The Max Wochoer & Son Company will display a line of their celebrated Physician's Office Furniture, Surgical Instruments and Electrical Apparatus at the meeting of the State Medical Association, Lexington, Ky. They are very anxious to meet their many friends.

This house has been serving the profession continuously since 1837 and are still growing in size and popularity.

REFERENCE COMMITTEES OF THE HOUSE OF DELEGATES OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

LEXINGTON, KY., SEPTEMBER 26-29, 1910.

1. COMMITTEE ON REPORT OF THE COUNCIL: J. E. Kincheloe, Breekinridge, Chairman; I. L. Wyatt, LaRue; A. G. Lovell, Rockcastle; L. G. Contri, Milton, and R. H. Porter, Barren.
2. COMMITTEE ON REPORTS OF COUNCILORS: J. K. W. Piper, Logan, Chairman; J. P. Wheeler, Carroll; M. McDowell, Harrison; W. A. Callis, Allen, and L. P. Molloy, Lyon.
3. COMMITTEE ON COUNTY SOCIETIES: V. E. Simpson, Jefferson, Chairman; A. M. Arnold, Breathitt; J. S. Barnes, Jessamine; J. H. Souther, Warren; and J. D. Rollins, Ballard.
4. COMMITTEE ON REPORTS OF OFFICERS OTHER THAN COUNCILORS: B. Cornelison, Chairman; O. E. Senour, Boone; I. S. Manning, Clay; J. W. Gilbert, Anderson, and J. H. Price, Christian.
5. COMMITTEE ON MEDICAL DEFENSE: R. C. McChord, Chairman; J. J. Rodman, Daviess; B. F. VanMeter, Fayette; R. L. Bird, Campbell-Kenton, and L. E. Comstock, Hart.
6. COMMITTEE ON LEGISLATION AND PUBLIC POLICY: C. Z. Aud, Chairman; I. A. Shirley, W. W. Anderson, Campbell-Kenton; George P. Sprague, Fayette; C. L. Heath, Knox, and A. W. Davis, Hopkins.
7. COMMITTEE ON THE JOURNAL: H. D. Rodman, Nelson, Chairman; C. B. Creech, Casey; J. M. Peek, Carlisle; C. N. Goldsboro, Oldham, and W. T. Buckner, Shelby.
8. COMMITTEE ON PURE FOOD AND DRUG LAW: W. R. Moss, Chairman; W. C. McCauley, Woodford; L. O. Smith, Whitley; C. D. Mansfield, Powell, and J. D. Liles, Lewis.
9. COMMITTEE ON RECIPROCITY IN MEDICAL LICENSURE: E. M. Wiley, Fayette, Chair-

man; W. M. Miller, Bourbon; S. J. Wedding, Ohio; L. E. Comstock, Hart, and M. H. Davis, Mason.

10. COMMITTEE ON OLD PHYSICIANS' HOME: T. Atchison Frazer, Crittenden, Chairman; J. H. Rice, Christian; U. L. Taylor, Adair, and W. E. Senour, Campbell-Kenton.

11. COMMITTEE ON ANTI-TUBERCULOSIS CAMPAIGN: D. O. Hancock, Henderson, Chairman; R. L. Bird, Campbell-Kenton; J. B. Mason, Laurel; A. B. Coons, Scott, and J. B. Scholl, Russell.

12. COMMITTEE ON "SIMPLE REFRACTION FOR THE FAMILY PHYSICIAN": D. M. Griffith, Chairman; A. O. Pfingst, Jefferson; W. E. Senour, Campbell-Kenton; J. G. Carpenter, Lincoln, and T. A. Frazer, Crittenden.

13. COMMITTEE ON FINANCE: B. F. Van Meter, Fayette, Chairman; J. J. Booker, Green; John E. Wilson, Pendleton; J. A. Mahaffey, Owsley, and J. R. Murnan, Campbell-Kenton.

14. COMMITTEE ON DIVISION OF FEES: G. A. Hendon, Jefferson, Chairman; P. H. Stewart, C. Z. Aud, B. F. Zimmerman and B. Cornelison, Bath.

15. COMMITTEE ON CONTRACT PRACTICE: J. R. Cowan, Boyle, Chairman; A. H. Moore, Boyd; H. D. Rodman, Nelson; Horace Lutten, Fulton, and L. O. Smith, Whitley.

16. COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS: W. W. Richmond, Chairman; J. W. Kincaid, J. O. Carson, L. F. Hammonds and J. S. Lock.

17. COMMITTEE ON PRINCIPLES OF ETHICS: J. G. Renaker, Grant, Chairman; J. Dismukes, Graves; J. S. Stone, Grayson; R. W. Duke, Knott, and A. J. Bean, Marshall.

18. COMMITTEE ON RESOLUTIONS: M. P. Creel, Muhlenberg, Chairman; O. M. Carter, Wayne; W. T. Buckner, Shelby; W. E. Foster, Owen, and Edward Kelley, Marion.

19. COMMITTEE ON PUBLIC HEALTH SANITATION: I. A. Shirley, Chairman; W. L. Haynes, McLean; J. N. Todd, Caldwell; E. M. Wiley, Fayette, and J. C. S. Brice, Fleming.

20. COMMITTEE ON ELECTION OF GUESTS: J. J. Rodman, Daviess, Chairman; N. M. Garrett, Franklin; William Burnett, Garrard; W. B. Oldham, Henry, and A. W. Davis, Hopkins.

21. COMMITTEE ON MEDICAL EDUCATION: W. W. Anderson, Campbell-Kenton, Chairman; W. H. Graves, Calloway; G. P.

Sprague, Fayette; G. A. Embry, Estill, and E. M. Childress, McCracken.

22. COMMITTEE ON LIFE INSURANCE EXAMINERS: R. C. McChord, Chairman; Oscar Keen, Cumberland; C. G. Daugherty, J. S. Lock, and M. B. Flowers, Clinton.

23. COMMITTEE ON CREDENTIALS: L. H. South, Warren, Chairman; B. Cornelison, Bath, and B. F. Van Meter, Fayette.

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PA- DUCAH IN 1902 AS AMENDED.

CONSTITUTION.

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II.—PURPOSES OF THE ASSOCIATION.

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar Associations in other States to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to rep-

resent their respective component county societies in the House of Delegates of this Association.

Sec. 4. GUESTS. Any distinguished physician not a residence of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privilege of participating in all of the scientific work of that Session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1), Delegates elected by the component county society, and (2), *ex-officio*, the officers of the Association as defined in Article VIII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The Officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES.

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Association and profession.

ARTICLE X.—REFERENDUM.

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XI.—THE SEAL.

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.

CHAPTER I.—MEMBERSHIP.

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Association.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members,

shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take any part in any of its proceedings, until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION.

Section 1. The Association shall hold an annual session, meeting in odd years in the city of Louisville, and in even years at some point in the state fixed at the preceding annual session.

Sec. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III.—GENERAL MEETING.

Section 1. The General Meetings shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Session so far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved of by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty minutes in its delivery; and no member shall

speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate. In case the regularly elected delegate is unable to attend the annual meeting of the Association, the President of the county society shall have the power to appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already

exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interest of the Association and profession will be prompted thereby, organize in each district medical society, to meet midway between the Annual Sessions of the Association, and members of the chartered county societies, and none others, shall be members in such district societies. When so organized from the Presidents of such district societies shall be chosen the Vice-Presidents of this Association, and the presidents of the county societies of the district shall be the Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of De-

legates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions or JOURNAL.

CHAPTER V.—ELECTION OF OFFICERS.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees, the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited voters for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall select one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association, and execute the necessary papers; and shall, in general,

subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Association and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as Chairman of the Committees on Scientific Work. He shall be editor of the *KENTUCKY MEDICAL JOURNAL*. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—COUNCIL.

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the

Chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report of the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the next annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relations to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and

superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the Association, and all money paid into the Secretary as dues shall be received as subscriptions to the JOURNAL. All money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

CHAPTER VIII.—COMMITTEES.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Education.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, or to the provisions of the the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legis-

lation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state and national affairs and elections. Its work shall be done with the dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee of Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER IX.—ASSESSMENTS AND EXPENDITURES.

Section 1. The assessment of two dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-affiliated physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessment, or makes the reports required, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

CHAPTER X.—RULES OF CONDUCT.

The principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XI.—RULES OF ORDER.

The deliberations of this Association shall be governed by parliamentary usage as con-

tained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII.—COUNTY SOCIETIES.

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority, may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation

and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferments shall be unstintingly given to such members.

Sec. 12. At the time for the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each twenty-five or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the annual sessions.

Sec. 13. The secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county so-

cietiy shall report to the KENTUCKY MEDICAL JOURNAL full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

CHAPTER XIII.—AMENDMENTS.

These By-Laws may be amended by any annual session by a two-thirds vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

CONSTITUTION AND BY-LAWS OF THE MEDICAL DEFENSE BRANCH OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

CONSTITUTION.

I. The name of this Association shall be the Medical Defense Branch of the Kentucky State Medical Association, and shall co-operate therewith as herein provided.

II. The object of this branch of the State Medical Association shall be the defense of its members against unjust suits for malpractice.

III. All members of the State Medical Association, and all future members on election, who wish to be members of this Defense Association shall pay an initiation fee of \$5, and yearly dues of \$1, to be collected by the Treasurer of the County Societies of the Kentucky State Medical Association, and forwarded by him to the secretary of the State Association, and shall be forwarded by him each month to the Treasurer of the State Association, who shall keep it as a separate fund.

IV. The officers of this Association shall be a Chairman, a Secretary, who shall be the Secretary of the State Association, *ex officio*, and a Treasurer, who shall be the Treasurer of the State Association, *ex officio*, and five other members and the President of the State Medical Association together forming an executive committee, and they shall have general charge of its affairs, who shall report at the yearly meeting of the State Association to the House of Delegates. The members of said committee shall be elected by the House of Delegates for ten years, except of those first appointed one shall serve ten years and one shall serve eight years and one shall serve six years and one shall serve four years and one shall serve two years. The Secretary and Treasurer shall not have a vote in the Committee.

V. The assistance in defense as herein provided shall be only of such members of the Kentucky State Medical Association as

are in good standing and who shall have paid the initiation fee and the yearly dues for this special purpose. Neglect to pay the dues at the proper time shall forfeit all claim on this Association for any protection which it can afford and from membership in this Association. A member who has been dropped for non-payment of dues may again join the (Protective) Association upon payment of his annual dues. No doctor shall be defended for any action unless he is a member of the Protective Association and a resident of Kentucky during the time when the alleged malpractice was committed and shall comply with the regulations herein and hereafter lawfully made.

VI. It shall be the duty of any member of this Association threatened with suit for malpractice to immediately notify the President of the County Society, who shall at once send him an application blank for names of witnesses, etc., and on receipt of this blank, properly filled in, the President shall immediately call his county committee and investigate.

VII. The President of the County Society in which the defendant resides, the Councilor of the Kentucky State Medical Association from the district, and a doctor (who must be a member of the Protective Association), chosen by the defendant, shall form a County Committee which shall investigate all cases of alleged malpractice. If for any reason the President or Councilor cannot act, the Secretary and Senior Delegate of the County Society shall act in his or their place in order. This committee shall examine the defendant and his witnesses, if necessary, under oath. If this committee agree that it is a case to be defended, it shall so report to the chairman of the Defense Association, who shall immediately notify the executive Committee of this Association. If this County Committee should decide it is not a case to be defended, the defendant doctor can appeal to the Executive Committee of the Medical Protective Association of the Kentucky State Medical Association and it shall in all cases have the final decision whether the case is to be defended or not. The findings of these committees, if unfavorable, are to be communicated to the defendant alone.

VIII. The only liability of the Medical Protective Association will be for the fee of the consultant lawyer which they have chosen, a reasonable fixed fee to be agreed to in advance of the local lawyer selected by the doctor, and the legally taxed court costs—all other expenses of the case to be borne by the defendants. Provided, however, that if the income of the Association for any one year has been exhausted by or appropriated for

contracts, in defense of members, the Association shall have the right of apportioning dues to the expense of defense to be borne by it upon all cases subsequently arising until such dues shall again be sufficient to pay as before indicated; and, provided further, that no officer or member of this Association shall be responsible individually for the whole or any part, or for any assessment upon any of the obligations which this Association, or its officers for it, are hereby authorized to assume.

IX. It shall be the duty of every member of this Association to aid the Association in every legitimate manner.

X. It shall be the duty of the Executive Committee to follow the case through any and all courts until a correct judgment be obtained, if in its opinion such a course should be judicious. *In no case will the Association compromise.*

XI. The Executive Committee may make or amend or change the rules and regulations during the year, but subject to revision by the House of Delegates at the next annual meeting of the Kentucky State Medical Association.

BY-LAWS.

1. The words, "this Association" as used in these by-laws refer to the Medical Branch of the Kentucky State Medical Association.

2. A certificate of membership showing the payment of dues to this Association for the current year signed by the President of the Kentucky State Medical Association and by the Chairman of the Executive Committee of this Association, and countersigned by the Secretary, shall be evidence of membership in this Association.

3. The yearly dues of \$1.00 shall be payable January 1st of each year and any member who fails to pay his dues by the first of April thereafter shall be deemed delinquent, and shall forfeit his membership, but may be reinstated at any time upon payment of annual dues; provided, however, that he shall not be entitled to have this Association defend any suit for an act of malpractice alleged to have been committed during the time he was not a member.

4. The Executive Committee shall hold its annual meeting on the day preceding the annual session of the Kentucky State Medical Association, and meetings may be held at any other time upon the call of the Chairman or of any three members of the Committee, two days' written notice of the meeting being given to each member.

5. Three members of the Executive Committee entitled to vote shall constitute a quorum.

6. The Executive Committee shall, at its annual meeting, elect one of its members as Chairman for the ensuing year, who shall enter at once upon his duties, which shall, in addition to the duties prescribed by the Constitution, be such as custom and parliamentary usages require.

7. A vacancy in the office of Chairman may, at a meeting called by three members of the Executive Committee for that purpose, be filled by the Committee until its next annual meeting.

8. It shall be the duty of the Executive Committee to employ a lawyer or firm of lawyers as the General Counsel of this Association and to fix his or their compensation, and it shall be the duty of the General Counsel upon request of the Executive Committee to give them legal advice in all matters pertaining to their official duties, and to take charge of and control the defense of all malpractice suits against members of this Association who have taken the steps necessary to entitle them to have the defense of this Association.

9. Each member of this Association who has complied with all its rules and regulations lawfully adopted shall be entitled, upon application duly made, to have this Association defend not only every original suit against him for malpractice which has been finally determined by the proper authority to be a case for defense, but every claim for damages against him in any of the Courts for alleged malpractice, whether the recovery be sought by an original action or by counterclaim, cross-action or otherwise, provided proper application for defense has been made and it has been determined by the proper authority that the claim is one in which ought to be defended, and provided further that the alleged malpractice was committed after the defendant became a member of this Association. In no event, however, is the defense herein contemplated to cover criminal prosecutions or suits for assaults, criminal abortion or other criminal act. The member shall be further entitled, after proper notice to the Executive Committee, to the advice and assistance of the Committee and the General Counsel in preventing threatened unjust suits for malpractice.

10. A member shall have no authority to employ an attorney to defend any action for malpractice brought against him, it being the duty of the Executive Committee to make such employment after conference with the General Counsel and defendant as to the attorney to be employed. Nor shall a member have authority to bind this Association for the payment of money for any other purpose, or in any other respect.

11. It shall be the duty of any member

applying for malpractice defense to immediately send to the Chairman of the Executive Committee upon receipt thereof, any process of court or evidence relating to the suit or threatened suit to be defended, and to keep the Executive Committee fully informed as to everything having a bearing on his defense.

REPORT OF THE COUNCIL.

To the House of Delegates:

We have the honor of submitting the following report of the activities of the Council for the current year:

We have been able to continue the increased income from advertising in the Journal, as follows:

1903-4.....	\$ 850.31
1904-5.....	1,184.94
1905-6.....	1,816.51
1906-7.....	3,411.52
1907-8.....	3,641.51
1908-9.....	5,644.74
1909-10.....	6,265.67

The profit from the conduct of your publications has fluctuated from year to year. This year it has been \$179.39.

The mid-month issue has been conducted under the immediate control of the Jefferson County Medical Society. The first twelve issues were published preceding April 15, last. Advertising contracts for \$3,301 were placed in our hands. Of this amount, \$2,290.57 has been placed to the credit of this issue. \$349.74 are still due and owing on account of advertising in this issue. It appears evident that we will be able to collect enough of these accounts to cover the actual cost of the issue, which was \$2,400. We cannot commend too highly the active and intelligent interest of the officers of the Jefferson County Society in this issue, and desire especially to express the gratitude of the profession of the State to Dr. Virgil E. Simpson, without whose self-sacrificing labors nothing could have been accomplished.

The following tables will show in detail the figures by years:

From	To	No. of Issues	Average Pages	Cost of Printing	Mails	Adv. Com.	Bus. Mgr.	Incidental	Total Expense	Total Income	Net Cost	Net Profit	Av. No. Issued
June, '03	June, '04	12	24	\$1,012.80	\$343.35				\$1,255.15	\$ 850.31	\$405.94		1000
June, '04	Oct. '05	16	32	1,862.24	142.27				2,004.51	1,184.94	819.57		1500
Oct. '05	Oct. '06	12	48	1,671.80	120.96				1,792.96	1,816.51		\$ 23.75	2000
Oct. '06	Oct. '07	12	80	2,716.25	89.46	\$369.97		\$ 71.96	3,237.64	3,411.02		173.38	2600
Sept. '07	Sept. '08	12	86	2,926.55	129.77	172.88		216.85	3,776.05	3,723.51	52.54		2880
Sept. '08	Sept. '09	12	92	4,500.15	175.59	284.74	\$217.25	114.29	5,292.02	5,614.78		351.26	2750
Sept. '09	Sept. '10	12	84	4,568.50	199.48	696.06	324.80	297.44	6,086.28	6,265.67		179.39	2500

As we have repeatedly said in the past, and as we must continually reiterate, we cannot hope to continue this remarkable showing

without an even more active support of our advertisers in the future. We are confident from careful investigation that there is not a single firm amongst our advertisers which is not worthy of your patronage.

If all of our membership will adopt the plan already in force in many societies of not only preferring those manufacturers and sanitarians which make their announcements through our own Journal but of calling the attention of all those who seek the patronage of the profession to that fact, we will have no difficulty in continuing to furnish our members with a satisfactory organ.

In this connection we desire to extend especial thanks to Drs. W. L. Heizer, of New Haven, J. R. Cowan, of Danville, Stine and Phythian of Newport, and our active President-elect for their assistance in securing advertisements.

Similar help from other members will enable us to continue the policy to which we have adhered since the reorganization of publishing every article sent to the JOURNAL from our county societies. This makes our JOURNAL really representative of the more than 2,000 Kentucky doctors who own it. During the coming year our expenses will naturally and necessarily increase if we continue this policy. We will appreciate such explicit directions as to the future conduct of the JOURNAL as your honorable body shall see fit to give.

At the meeting of the Council in Louisville during the 1909 session the contract for printing the JOURNAL was let to the Times-Journal Publishing Company, of Bowling Green, for twelve months on the following contract:

This contract made and entered into by the Kentucky State Medical Association, incorporated, party of the first part, and the Times-Journal Publishing Company, incorporated, party of the second part, witnesseth:

That the party of the second part hereby agrees to publish for party of the first part the KENTUCKY MEDICAL JOURNAL on the paper of the quality furnished, the body of the JOURNAL to be printed in 10-point DeVinne type, the discussions and similar matter to be

placed in 8-point DeVinne type, not more than one-third of each issue to be advertising matter, set by hand, each Jefferson County is-

sue to consist of 48 pages, 2,500 copies, in consideration of the sum of \$160 per month; and each regular issue to consist of sixty-four pages, 2,500 copies, in consideration of the sum of \$200 per month, or of eighty pages, 2,500 copies, in consideration of the sum of \$250, or of ninety-six pages, 2,500 copies, in consideration of the sum of \$300, or one hundred and twelve pages, 2,500 copies, in consideration of \$350. It is further agreed that the party of the second part agrees that the JOURNAL shall be mailed to the members before midnight on the 26th day of the month preceding issue, subject to a penalty of ten dollars (\$10) for each twenty-four hours, or fraction thereof, delay.

It is further agreed that one-third of the copy for the Jefferson County number shall be in the hands of the printer on the 26th day of the month preceding issue, one-third on the 1st day of the month of issue, and the remaining one-third on the 5th day of the month of issue; the advertising forms to close on the 1st day of the month of issue.

It is further agreed that one-third of the copy for the regular number shall be in the hands of the printer on the 5th day of the month of issue, one-third on the 10th and one-third on the 6th day of the month of issue.

It is further agreed that the copy shall be correct, and the party of the second part agrees to pay twenty-five (25) cents for each typographical error not contained in the copy. Galley proofs and page proofs are to be submitted to the editor, and it is agreed that it shall be read and returned within twenty-four hours after its submission.

It is further agreed that the second party shall furnish envelopes, the return card to be printed on same at the rate of \$1.00 per thousand, which shall be addressed by the first party, and the JOURNAL shall be put in envelopes and mailed by the second party.

It is further agreed that this contract is to be continued for twelve (12) months, beginning this, December 1st, 1909.

Witnesseth our hands and seals this day and date above named.

KENTUCKY STATE MEDICAL ASSOCIATION (Inc.)

By E. RAU, Chairman Council.

TIMES-JOURNAL PUBLISHING COMPANY (Inc.)

By W. J. DENHARDT, Manager.

Accepted October 18, 1909.

The contract with the Jefferson County Medical Society is as follows:

This contract made and entered into this day of April, 1909, between the Jefferson County Medical Society, party of the first part, and the Kentucky State Medical Association, incorporated, party of the second part, Witnesseth:

That in consideration of the securing of

advertising contracts in Jefferson county, Kentucky, by the party of the first part for the JOURNAL published by the party of the second part, which shall provide for it a net income from said advertisements of \$2,400 per annum, the party of the second part agrees to publish on or about the fifteenth day of each month an edition of the said JOURNAL which shall be known as the Jefferson County Number, each issue to consist of forty-eight pages of reading matter and advertisements, to be published and distributed under the following conditions, to-wit:

I. The Jefferson County Number of the KENTUCKY MEDICAL JOURNAL shall be published of the same style, size of pages, and shall be mailed to the same mailing list and shall be a part of the regular issue of the KENTUCKY MEDICAL JOURNAL.

II. Its editor and business manager shall be the same as for the KENTUCKY MEDICAL JOURNAL, but assistant editors and associate editors shall be nominated for it by the Jefferson County Medical Society from its membership, to the Council of the State Association.

III. The editorials for it shall be written by its own associate editors and the scientific editorials, by its own assistant editors, provided that editorial matter in regard to the public policy of the State Association shall be subject to the approval of the Council, as provided by the constitution.

IV. Essays and discussions will be published in the order in which they are received from the secretary of the Jefferson County Medical Society.

V. The assistant and associate editors herein provided shall be assigned by the secretary of the Jefferson County Society to editorial work for the various issues at least three months in advance, and in case any such editor shall fail to send in his copy to the editor of the JOURNAL two successive times, the editor shall certify the fact to the Jefferson County Society, and another member shall be nominated to fill the vacancy thereby occasioned.

VI. Advertisements of medical preparations shall be limited to U. S. P. and N. F. preparations, and to those approved by the Council on Pharmacy and Chemistry of the American Medical Association; of food preparations, to those which comply with the United States and Kentucky Pure Food and Drug Laws; and of sanitariums and business houses, to those approved by the Executive Committee of the Jefferson County Medical Society; all advertisements being subject to the approval of the Council.

IX. The business manager of the JOURNAL shall try as far as possible to secure adver-

tisements for the Jefferson County Number, and the net income from such advertisements shall be credited in the consideration herein.

X. The Jefferson County Society may secure advertisements outside of Jefferson county, with the consent of the editor, the net proceeds to be credited two-thirds to the Jefferson county issue and one-third to the ordinary issue. The consent of the editor is required only to prevent competition between the two issues, and he shall in every way assist the Jefferson County Society in securing advertisements when they have a reasonable prospect of securing them.

XI. Subscriptions to the KENTUCKY MEDICAL JOURNAL shall be at the rate of \$2.00 a year, and two-fifths of the income from subscribers secured by the Jefferson County Society shall be credited on the consideration herein, provided that such subscribers are not eligible to membership in the Kentucky State Medical Association, in which latter case, the whole subscription shall go to the general fund of the Association.

XII. In case the total net income of the Jefferson County Number shall exceed \$2,400 per annum, 66 and two-thirds per cent of the excess shall be paid to the treasurer of the Jefferson County Society, and 33 and one-third per cent. to the Kentucky State Medical Association.

XIII. The consideration herein is based on a forty-eight-page issue, with a circulation not to exceed 3,000. For each additional 500 copies required the consideration will be increased \$25, and for each additional sixteen pages of any issue of 3,000 or less, it will be increased \$50.

XV. While it is agreed that the Jefferson County Number is to be representative of and under control of the Jefferson County Society, in so far as it does not conflict with the Constitution of the State Association, it is understood that the editor and the secretary of the Jefferson County Society may arrange for such exchange of articles between the two issues as will promote harmonious relation and united action between the parties hereto at all times.

After careful consideration we feel that the future of the JOURNAL will be better secured by the appointment of a Business Manager for the Jefferson County Number, as recommended by the editor.

It is hardly necessary to again call the attention of our members to the fact that no advertisement is accepted of any medical preparation which can not be accepted under the rules promulgated by the Council of Pharmacy and Chemistry of the American Medical Association. Careful investigation has shown that five-sixths of the preparations

now being advertised in the American medical press are fraudulent or worthless or both. The time has passed when our profession can longer countenance the use of such remedies, and we consider it of especial importance that the whole profession be thoroughly instructed in this matter that the venal portion of the medical press may be refused shelf-room in our offices.

It is a pleasure to repeat our statement of last year that the conduct of our own JOURNAL is conclusive evidence that a medical journal can be conducted honestly, and, at the same time, profitably. We respectfully submit that unless they are conducted honestly it is the duty of every member of the profession to decline to be connected with them editorially, financially or as a subscriber.

We have had the reports of the Secretary and Treasurer audited by the Potter-Matlock Trust Company of Bowling Green, and submit their report herewith. It will be noted that each item of expense and income are set forth so plainly, that not only every county society and its Delegates, but every member of the Association, may know the details of our business affairs, which are of interest and importance to all. It is the especial desire of the Council that the Delegates will carefully consider every detail of this report as well as of those of your other officers, and will give us and them such directions as to the future conduct of the affairs of the Association as will best promote its avowed purpose "to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other States to form the American Medical Association with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life." Respectfully submitted,

ERNEST RAU, Chairman.

AUDITOR'S REPORT.

Bowling Green, Ky., Sept. , 1910.

To the Council, Kentucky State Medical Association:—

GENTLEMEN: We herewith submit our report of the audit of the books and accounts of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. W. B. McClure, beginning September 1, 1909, and ending September 1, 1910, viz.:

Cash assets in hands of Treasurer, viz.:	
Cash balance in Second National Bank, Lexington, Ky., to the credit of W. B. McClure, Treasurer Kentucky Medical Association, as per certificate	\$4,384 55
Cash balance in First National Bank, Lexington, Ky., to the credit of W. B. McClure, Treasurer Medical Defense Branch of the Kentucky State Medical Association as per certificate	626 32
Total cash balances.....	\$5,010 87
Balance according to Secretary's books	\$5,010 87

We found receipted vouchers for every item of disbursements and checked every item of said vouchers into various ledger accounts, and saw that the cancelled vouchers in hands of the Treasurer agreed with the Secretary's stubs.

All amounts entered on Secretary's cash book from the sundry sources were found to agree in detail and aggregated with statement of Treasurer. We note a number of items credited in error to the Association account, aggregating \$255.87, which should have been credited to the JOURNAL account. The error had been corrected.

A full report is herewith given, as set forth in the following exhibits:

EXHIBIT "A"—RECEIPTS AND DISBURSEMENTS OF CASH OF YOUR ASSOCIATION, which includes Secretary and Treasurer, from September 1, 1909, to September 1, 1910.

EXHIBIT "B."—DETAILED STATEMENT OF DISBURSEMENTS OF W. B. MCCLURE, TREASURER, KENTUCKY STATE MEDICAL ASSOCIATION, each made on a voucher check, signed by Isaac A. Shirley, President; A. T. McCormack, Secretary, and himself, from September 1, 1909, to September 1, 1910.

EXHIBIT "C"—DETAILED STATEMENT OF DISBURSEMENTS OF W. B. MCCLURE, TREASURER, MEDICAL DEFENSE BRANCH, KENTUCKY STATE MEDICAL ASSOCIATION, each made on a voucher check, signed by John J. Moren, Chairman; A. T. McCormack, Secretary, and himself.

EXHIBIT "D"—DETAILED LIST RECEIPTS COUNTY SOCIETIES, from September 1, 1909, to September 1, 1910.

EXHIBIT "F"—INVOICE OF PROPERTY OF ASSOCIATION, September 1, 1910.

EXHIBIT "G"—SECRETARY'S MONTHLY BALANCE SHEET, agreeing with the books.

EXHIBIT "H"—COLLECTIONS BY EDITOR ON ACCOUNT OF KENTUCKY MEDICAL JOURNAL, corresponding with checks for even amounts filed herewith.

EXHIBIT "I"—COLLECTIONS BY SECRETARY ON ACCOUNT OF KENTUCKY STATE MEDICAL ASSOCIATION, corresponding with checks for even amounts filed herewith.

EXHIBIT "K"—BALANCE SHEET, MEDICAL DEFENSE BRANCH, KENTUCKY STATE MEDICAL ASSOCIATION.

By reason of the systematic, business-like and simple method of handling your accounts employed by your efficient Secretary, we have had little difficulty in making this voluminous report, which gives you in aggregate and also in detail the entire business of the year, so far as the bookkeeping goes.

We note the same care and watchfulness in keeping your records.

Respectfully submitted,

POTTER-MATLOCK TRUST Co.,
By B. P. EUBANK,
Public Accountant.

EXHIBIT "A."

RECEIPTS AND DISBURSEMENTS OF CASH, KENTUCKY STATE MEDICAL ASSOCIATION
—BOWLING GREEN, KY., SEPTEMBER 1, 1909, TO SEPTEMBER 1, 1910.

RECEIPTS.

Dues of county societies and subscriptions to JOURNAL.....	\$4,335 87
By amount due JOURNAL.....	255 87
	\$ 4,080 00
Income of JOURNAL advertising, etc....	\$6,009 80
To amount credited county societies..	255 87
	6,265 67
Medical Defense.....	592 00
Total receipts.....	\$10,937 67
Balance on hand September 1, 1909	4,222 46
Total receipts, including balance on hand September 1, 1909.....	\$15,160 13

DISBURSEMENTS-

Printing JOURNAL, twelve months...	\$4,568 50
Salary of Secretary.....	1,200 00
Expenses Annual Meeting, Louisville, 1909	766 82
Salary of stenographer.....	721 67
Advertising commissions for JOURNAL	696 06
Medical Defense	428 95
Expense of officers, councilors and committees	418 46

Stamps and envelopes, Secretary-Editor	344 64	Printing, other than JOURNAL.....	16 25
Salary and expense of Business Manager	324 80	Express, freight and hauling, JOURNAL	5 38
JOURNAL sundries.....	297 44	Traveling expenses of Secretary.....	3 50
Postage on JOURNAL.....	199 48	Express, Secretary.....	1 95
Sundries of Secretary's office.....	91 11		
Office expenses and bond, Treasurer..	64 25	Total disbursements	\$10,149 26
		Balance September 1, 1910.....	5,010 87
		Total	\$15,160 13

EXHIBIT "B."

Detailed Statement of Disbursements of W. B. McClure, Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by I. A. Shirley, President, A. T. McCormack, Secretary, and himself from September 1, 1909 to September 1, 1910.

1909.

OCT. 6. VOUCHER CHECK No. 194.....	\$226 00
S. W. BASSETT COMPANY	
To 400 rolled gold buttons.....	\$112 00
To 600 Louisville bangles.....	114 00
OCT. 6. VOUCHER CHECK No. 195.....	96 76
DR. A. T. McCORMACK	
Expenses to Morgantown	3 50
To second-class postage September 1 JOURNAL (check to W. R. Speck)	9 11
Express on letters to Dr. Wells.....	55
Express on cuts	35
To second-class postage September 15 JOURNAL (check to W. R. Speck)	7 12
To express on pictures (Dr. I. A. Shirley).....	1 13
To September Salary	75 00
OCT. 6. VOUCHER CHECK No. 196.....	61 32
MESSRS. W. J. AND J. G. DENHARDT	
To commission on advertisements Jefferson County number (25 per cent. on \$245.29).	
OCT. 6. VOUCHER CHECK No. 197.....	1 00
DR. L. P. TRABUE	
To excess payment, R. L. Cobb, dues.	
OCT. 6. VOUCHER CHECK No. 198.....	458 20
TIMES-JOURNAL PUBLISHING COMPANY	
By error in V. C. No. 161.....	75
To letter heads and envelopes Com. on arrangements to Louisville	16 45
To 2,500 copies September 15 issue 48 page JOURNAL	150 00
By 1½ days delay	15 00
By seven type errors.....	1 75
To 2,500 copies October 1 JOURNAL, 96 pages	303 75
By eleven type errors	2.25
To 5,000 envelopes (ptg.)	5 00
To putting in inserts.....	2 75
OCT. 6. VOUCHER CHECK No. 199.....	41 67
MARY STALLARD	
To September salary.	
OCT. 6. VOUCHER CHECK No. 200.....	25 00
DR. L. H. SOUTH	
To September salary.	
NOV. 6. VOUCHER CHECK No. 201.....	296 06
DR. A. T. McCORMACK	
To second-class postage October 1 JOURNAL (check to W. R. Speck)...	12 68
Express on pictures, Dr. I. A. Shirley.....	60
Express on account cards	55
Express on cuts	40
Express on cuts	30
Hack transfer, expenses to Louisville.....	6 66
To incidental expenses Louisville meeting	7 41
To expenses	47 80
To 4,000 2c stamped envelopes, check to W. R. Speck	85 76
To express	40
To express on cuts	40
To second-class postage October 15 JOURNAL (check to W. R. Speck)...	7 70
To express on JOURNALS during Louisville meeting	40
To salary for October.....	100 00
Balance salary for September	25 00
OCT. 19. VOUCHER CHECK No. 202.....	16 85
DR. D. M. GRIFFITH	
To expenses as Councilor 2nd District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 203.....	70 00
DR. I. A. SHIRLEY	

To expenses as President-elect and Councilor 10th District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 204.....	11 60
DR. J. W. KINCAID	
To expenses as Councilor 9th District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 205.....	22 10
DR. J. S. LOCK	
To expenses as Councilor 11th District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 206.....	32 85
DR. E. RAU	
To expenses as Councilor 3rd District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 207.....	44 00
DR. W. W. RICHMOND	
To expenses as Councilor 2nd District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 208.....	23 20
DR. L. T. HAMMONDS	
To expenses as Councilor 7th District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 209.....	4 50
DR. H. D. RODMAN	
To postage, mailing, typewriting and printing for meeting of County Secretaries as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 210.....	24 57
DR. J. E. WELLS	
To expenses as Councilor 8th District as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 211.....	22 25
DR. W. B. McCLURE	
Expenses in attendance of State Meeting and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 212.....	32 83
DR. C. Z. AUD	
To expenses as Councilor as per itemized statement approved by Council and ordered paid by House of Delegates.	
OCT. 19. VOUCHER CHECK No. 213.....	5 00
DR. J. GARLAND SHERRILL	
To expenses as Councilor as per itemized statement approved by Council and ordered paid by House of Delegates.	
NOV. 6. VOUCHER CHECK No. 214.....	5 00
MESSRS. FURNAS & MADDIX	
To operating Stereopticon at Seelbach.	
NOV. 6. VOUCHER CHECK No. 215.....	4 50
DR. LEE KAHN	
To cuts for JOURNAL.	
NOV. 6. VOUCHER CHECK No. 216.....	2 97
MESSRS. RIDDLE & WUNDERLE COMPANY	
To 2 No. 2 self inker with wood cut ink and postage.	
NOV. 6. VOUCHER CHECK No. 217.....	3 00
DR. J. L. ATKINSON	
To advertising for Mrs. S. R. Bass.	
NOV. 6. VOUCHER CHECK No. 218.....	35 00
DR. J. G. CARPENTER	
To drawings for essay.	
NOV. 6. VOUCHER CHECK No. 219.....	17 50
OLIVER TYPEWRITER COMPANY	
To balance exchange for typewriter.	
NOV. 6. VOUCHER CHECK No. 220.....	106 00
DR. L. H. SOUTH	
To commission on advertising	81 00
To salary for October	25 00
NOV. 6. VOUCHER CHECK No. 221.....	68 50
MISS MAYME SULLIVAN	
To expenses self and Miss Stallard, Bowling Green to Louisville, hotel bill, etc.....	43 50
To honorarium	25 00
NOV. 6. VOUCHER CHECK No. 222.....	60 00
MISS MARY STALLARD	
To salary to November 1.	

Nov. 6.	VOUCHER CHECK No. 223.....	50
	BOONE COUNTY MEDICAL SOCIETY	
	County Society Dues, J. G. Slater, Walton, paid State Secretary at Louisville.	
Nov. 6.	VOUCHER CHECK No. 224.....	62 26
	W. J. AND J. G. DENHARDT	
	To commission Jefferson collections (25 per cent of \$249.05)	
Nov. 6.	VOUCHER CHECK No. 225.....	248 00
	TIMES-JOURNAL PUBLISHING COMPANY	
	To cards printed in Louisville.....	3 00
	To 300 programs House of Delegates.....	2 25
	To 200 official call	1 75
	To 2,500 blank cards	4 00
	To 300 Com. House of Delegates	2 25
	To 1,000 sub. cards	4 50
	To 300 large cards	2 25
	To 1,500 programs	25 50
	To 2,500 Jefferson County number, 64 pages....	200 00
	To ptg. 2,500 envelopes.....	2 50
DEC. 4.	VOUCHER CHECK No. 226.....	204 87
	DR. A. T. McCORMACK	
	To express on Medical Defense Certificates for 1910	40
	To express on membership cards.....	45
	To photo of Councilors, made at Louisville meeting	1 00
	To membership book.....	40
	To 4,000 2c stamped envelopes (check to W. R. Speck)	85 76
	To postage on Nov. 1 JOURNAL (check to W. R. Speck)	10 54
	To postage on Nov. 15 JOURNAL (check to W. R. Speck)	6 32
	To salary to date	100 00
DEC. 4.	VOUCHER CHECK No. 227.....	37 34
	AMERICAN MEDICAL ASSOCIATION	
	To pictures of Dr. I. A. Shirley per bill rendered	35 00
	To 200 reprints without cover.....	2 34
DEC. 4.	VOUCHER CHECK No. 228.....	20 00
	COURIER-JOURNAL JOB PRINTING COMPANY	
	To membership cards, litho 2 col.	
DEC. 4.	VOUCHER CHECK No. 229.....	9 64
	ADDRESSOGRAPH COMPANY	
	To July and August business per statement rendered of Nov. 3, 1909..	8 76
	To 73 addresses and express	88
DEC. 4.	VOUCHER CHECK No. 230.....	3 75
	WILL V. GARVIN	
	To frame and packing Dr. Wesley's picture.....	3 75
DEC. 4.	VOUCHER CHECK No. 231.....	40 52
	W. J. AND J. G. DENHARDT	
	To commission on advertising collection Jefferson County No. (25 per cent. on \$174.56)	43 64
	By error in last check	3 12
DEC. 4.	VOUCHER CHECK No. 232.....	60 00
	MARY STALLARD	
	To salary for November.	
DEC. 4.	VOUCHER CHECK No. 233.....	25 00
	DR. L. H. SOUTH	
	To Salary to date.	
DEC. 4.	VOUCHER CHECK No. 234.....	484 70
	TIMES-JOURNAL PUBLISHING COMPANY	
	To 2,500, 96 page Nov. 1 JOURNAL	300 00
	By 1½ days delay.....	15 00
	To 2,500 envelopes (ptg.).....	2 50
	To 2,500 Jefferson Co. No. Nov. 15, 48 pages....	160 00
	To 2,500 envelopes (ptg.)	2 50
	By 18 type errors	4 50
	To 1,500 linen blanks	4 75
	To 8 sets letter heads officers.....	32 00
	To express on same	2 45
JAN. 4.	VOUCHER CHECK No. 235.....	118 01
	DR. A. T. McCORMACK	
	To express on cuts	50
	To postage on December 1 JOURNAL (check to W. R. Speck	11 68
	To postage on December 15 JOURNAL (check to W. R. Speck)	5 83
	To salary to date	100 00
JAN. 4.	VOUCHER CHECK No. 236.....	20 00
	FIDELITY AND DEPOSIT COMPANY	

JAN. 4.	VOUCHER CHECK NO. 237.....	283 50
	WM. WHITFORD	
	To reporting four days and two evenings.....	50 00
	To transcribing proceedings of House of Delegates	102 25
	To transcribing discussions on papers.....	131 25
JAN. 4.	VOUCHER CHECK NO. 238.....	417 00
	TIMES-JOURNAL PUBLISHING COMPANY	
	To 2,500 96 page December 1 JOURNAL.....	300 00
	To 2,500 envelopes December 1 JOURNAL.....	2 50
	By 1 day's delay	10 00
	By 25 typographical errors.....	4 25
	To 2,500 Jefferson County Number.....	160 00
	By 3 days' delay	30 00
	By 5 typographical errors	1 25
JAN. 4.	VOUCHER CHECK NO. 239.....	60 00
	MARY STALLARD	
	To salary to date.	
JAN. 4.	VOUCHER CHECK NO. 240.....	25 00
	DR. L. H. SOUTH	
	To salary to date.	
FEB. 1	VOUCHER CHECK NO. 242.....	120 38
	DR. A. T. McCORMACK.	
	To postage on January 1 JOURNAL (check to W. R. Speck)	13 84
	To postage on January 15 JOURNAL (check to W. R. Speck)	6 54
	To salary to date	100 00
FEB. 1.	VOUCHER CHECK NO. 243.....	2 23
	WESTERN UNION TELEGRAPH COMPANY	
	To messages to date.	
FEB. 1.	VOUCHER CHECK NO. 244.....	2 00
	DR. S. L. HENRY, SECRETARY UNION COUNTY MEDICAL SOCIETY	
	To check for State dues sent in error to State Secretary.	
FEB. 1.	VOUCHER CHECK NO. 246.....	25 00
	DR. L. H. SOUTH	
	To salary Business Manager.	
FEB. 1.	VOUCHER CHECK NO. 247.....	20 00
	MISS FLORIS MORSE	
	To extra services as stenographer.	
FEB. 1.	VOUCHER CHECK NO. 248.....	743 55
	TIMES-JOURNAL PUBLISHING COMPANY	
	To express on letter heads to 1st and 6th District	1 05
	To express on letter heads to 1st and 6th Districts	8 50
	To 2,500 January 1 JOURNAL, 116 pages.....	365 00
	To 2,500 January 15 JOURNAL, 48 pages.....	160 00
	To 2,500 February 1 JOURNAL, 80 pages.....	250 00
	To ptg. 7,500 envelopes	7 50
	By four days' delay January 1 JOURNAL.....	40 00
	To extra galleys, etc., January 1 JOURNAL.....	40 00
	By three days' delay January 15 JOURNAL.....	30 00
	By one day's delay February 1 JOURNAL.....	10 00
	By 17 type errors January 1 JOURNAL.....	4 25
	By 10 type errors January 15 JOURNAL.....	2 50
	By 7 type errors February 1 JOURNAL.....	1 75
FEB. 1.	VOUCHER CHECK NO. 249.....	60 00
	MARY STALLARD	
	To salary, stenographer.	
FEB. 1.	VOUCHER CHECK NO. 250.....	8 00
	DR. W. B. McCLURE	
	Stamps.	
FEB. 1.	VOUCHER CHECK NO. 251	14 00
	McCLURE, GUM & COMPANY	
	To 500 letter, full	8 00
	To 1,000 letter. 2-3	6 00
MAR. 1.	VOUCHER CHECK NO. 253	5 00
	AMERICAN MEDICAL ASSOCIATION	
	To A. M. A. dues Dr. S. R. York, Center, Ky., sent by error to State Secretary.	
MAR. 1.	VOUCHER CHECK NO. 254.....	2 36
	ADDRESSOGRAPH COMPANY, CHICAGO, ILLINOIS	
	To balance.	
MAR. 1.	VOUCHER CHECK NO. 255.....	115 77
	DR. A. T. McCORMACK	
	To postage on February 1 JOURNAL (check to W. R. Speck)	9 03
	To postage on February 15 JOURNAL (check to W. R. Speck)	6 74
	To February salary	100 00
MAR. 1.	VOUCHERS CHECK NO. 256.....	25 00
	DR. L. H. SOUTH	
	To salary to date.	

MAR. 1.	VOUCHER CHECK No. 257.....	60 00
	MARY STALLARD	
	To salary to date.	
MAR. 1.	VOUCHER CHECK No. 258.....	381 23
	TIMES-JOURNAL PUBLISHING COMPANY	
	To 2,000 sheets No. 24 Charter bond.....	5 50
	To 2,500 copies February 15 JOURNAL, 48 pages.....	160 00
	To 2,500 envelopes	2 50
	By one day's delay	10 00
	By ten typographical errors.....	2 50
	To 2,500 copies March 1 JOURNAL, 80 pages.....	250 00
	To 2,500 envelopes	2 50
	By two and one-half days' delay.....	25 00
	By seven typographical errors	1 75
MAR. 1.	VOUCHER CHECK No. 259.....	246 52
	W. J. AND J. G. DENHARDT	
	To commission on Jefferson County Number (25 per cent. on \$986.10).	
APRIL 5.	VOUCHER CHECK No. 260.....	121 88
	BUSH-KREBS COMPANY	
	To balance for half tones and cuts.	
APRIL 5.	VOUCHER CHECK No. 261.....	4 00
	C. A. MUNKLE	
	To Secretary's ledger.	
APRIL 5.	VOUCHER CHECK No. 262.....	25 00
	POTTER-MATLOCK TRUST COMPANY	
	To services auditing books and accounts Secretary and Treasurer financial year October, 1908-October, 1909 and reporting same.	
APRIL 5.	VOUCHER CHECK No. 263.....	10 00
	W. C. BROWNFIELD	
	To engrossing resolutions Dr. T. J. Wesley.	
APRIL 5.	VOUCHER CHECK No. 264.....	397 25
	TIMES-JOURNAL PUBLISHING COMPANY	
	To 2,500 48 page Jefferson County issue.....	160 00
	To 2,500 envelopes	2 50
	To 2,500 80 page April 1 issue.....	250 00
	To 2,500 envelopes	2 50
	By type errors March 15 issue (9).....	2 25
	By type errors April 1 issue (22).....	5 50
	By one day's delay April 1 issue	10 00
APRIL 5.	VOUCHER CHECK No. 265.....	129 52
	DR. A. T. McCORMACK	
	To postage on March 1 JOURNAL (check to W. R. Speck)	10 10
	To express on cuts	35
	To postage on March 15 JOURNAL (check to W. R. Speck)	7 07
	To long distance 'phoning.....	95
	To postage on April 1 JOURNAL (check to Dr. Wm. Turner)	10 60
	To express on cuts	45
	To salary for March	100 00
APRIL 5.	VOUCHER CHECK No. 266.....	25 00
	DR. L. H. SOUTH	
	To salary for March.	
APRIL 5.	VOUCHER CHECK No. 267.....	60 00
	MARY STALLARD	
	To salary for March.	
MAY 5.	VOUCHER CHECK No. 268.....	117 76
	DR. A. T. McCORMACK	
	To postage on April 15 JOURNAL (check to Dr. Wm. Turner)	7 13
	To postage on May 1 JOURNAL (check to Dr. Wm. Turner)	10 63
	Salary for April	100 00
MAY 5.	VOUCHER CHECK No. 269.....	2 06
	ADDRESSOGRAPH COMPANY.	
MAY 5.	VOUCHER CHECK No. 270.....	332 25
	TIMES-JOURNAL PUBLISHING COMPANY	
	To 2,500 48 page April 15 issue.....	160 00
	By five days' delay.....	50 00
	By thirty type errors April 15 issue.....	7 50
	To 2,500 80 page May 1 issue.....	250 00
	By two days' delay May 1 issue.....	20 00
	By twenty-one type errors	5 25
	To 2,500 envelopes, regular issue	2 50
	To 2,500 envelopes Jefferson County issue.....	2 50
MAY 5.	VOUCHER CHECK No. 271.....	25 00
	DR. L. H. SOUTH	
	To salary to date.	
MAY 5.	VOUCHER CHECK No. 272.....	60 00
	MARY STALLARD	
	To salary to date.	

MAY 5.	VOUCHER CHECK No. 273.....	98 80
	MESSRS. W. J. AND J. G. DENHARDT	
	To commission on advertisements Jefferson County number.	
JUNE 1.	VOUCHER CHECK No. 274.....	44 30
	DR. VIRGIL E. SIMPSON	
	To expense as delegate from Kentucky State Medical Association to the Convention for the revision of U. S. Pharmacopoea held in Washington, D. C., May 10, 11 and 12, 1910.	
JUNE 1.	VOUCHER CHECK No. 275.....	106 47
	DR. A. T. McCORMACK	
	To postage on May 15 JOURNAL (check to Dr. Wm. Turner)	6 47
	To salary for May	100 00
JUNE 1.	VOUCHER CHECK No. 276.....	25 00
	DR. L. H. SOUTH.	
	To salary for May.	
JUNE 1.	VOUCHER CHECK No. 277.....	60 00
	MARY STALLARD	
	To salary for May.	
JUNE 1.	VOUCHER CHECK No. 279.....	173 12
	DR. A. T. McCORMACK	
	To 4,000 No. 8 envelopes.....	87 36
	To 4,000 No. 13 envelopes.....	85 76
JUNE 1.	VOUCHER CHECK No. 280.....	441 19
	TIMES-JOURNAL PUBLISHING COMPANY	
	To half tones, Dr. G. M. Reddish.....	6 05
	To 13 half tones, portraits Legislators.....	17 60
	To 1,000 full length linen bill heads.....	5 00
	To Jefferson County issue, May 15, 48 pages.....	160 00
	By one day's delay.....	10 00
	To one each round and square half tone, hal.....	8 84
	To 2,000 sheets blank linen.....	4 75
	To June issue, regular JOURNAL, 80 pages.....	250 00
	By 25 type errors	6 25
	By one day's delay	10 00
	To 5,000 envelopes	5 00
	To 500 Jefferson County contracts	1 75
	To 1,000 regular issue contracts.....	2 25
	To drawings and engravings, exhibition space Lexington meeting	5 70
	To express	50
JULY 1.	VOUCHER CHECK No. 281.....	116 04
	DR. A. T. McCORMACK	
	To postage on June 1 JOURNAL (check to Dr. Wm. Turner)	10 11
	To postage on June 15 JOURNAL (check to Dr. Wm. Turner)	5 93
	To salary for June	100 00
JULY 1.	VOUCHER CHECK No. 282.....	25 00
	DR. L. H. SOUTH	
	To salary for June.	
JULY 1.	VOUCHER CHECK No. 283.....	60 00
	MARY STALLARD	
	To salary for June.	
JULY 1.	VOUCHER CHECK No. 284.....	24 80
	DR. L. H. SOUTH	
	To expenses to St. Louis, American Medical Association.	
AUG. 1.	VOUCHER CHECK No. 285.....	117 30
	DR. A. T. McCORMACK	
	To Western Telegraph Co.	3 60
	To Bowling Green Home Telephone Co.....	1 55
	To postage July 1 JOURNAL	8 31
	To postage July 15 JOURNAL.....	3 84
	To salary for July	100 00
AUG. 1.	VOUCHER CHECK No. 286.....	41 26
	W. J. & J. G. DENHARDT	
	To commission on advertising Jefferson County JOURNAL (25 per cent. on \$103.73)	25 93
	To commission on renewals (15 per cent. on \$102.18)	15 33
AUG. 1.	VOUCHER CHECK No. 287	683 52
	TIMES-JOURNAL PUBLISHING COMPANY	
	To balance due on Bush-Krebs' account.....	6 65
	To 500 circulars	2 75
	To 500 application blanks	3 00
	To 500 charts	1 50
	To 9,000 envelopes	9 00
	To 2,000 sheets letter paper	4 75
	To 1,000 letter heads	4 00
	To 2,500 copies Jefferson Co. number, June 15, 48 pages	160 00

	By 4 days' delay.....	40 00	
	By 16 type errors	4 00	
	To July 1 issue of JOURNAL, 80 pages.....	250 00	
	By 2 days' delay	20 00	
	By 11 type errors	2 75	
	To 2 views Inst.	1 31	
	To half tone cuts	1 56	
	To Jefferson County number, July 15, 48 pages	135 00	
	By 8 errors	2 00	
	To August 1 JOURNAL, 64 pages.....	175 00	
	By 9 type errors	2 25	
AUG. 1.	VOUCHER CHECK No. 288.....		25 00
	DR. L. H. SOUTH		
	To salary for July.....		
AUG. 1.	VOUCHER CHECK No. 289		60 00
	MARY STALLARD		
	To salary for July.....		
AUG. 26.	VOUCHER CHECK No. 290.....		112 16
	DR. A. T. McCORMACK		
	To postage on August 1 issue.....	6 69	
	(Check to Dr. Wm. Turner)		
	To postage on August 15 issue.....	5 47	
	(Check to Dr. Wm. Turner)		
	To salary to September 1.....	100 00	
AUG. 26.	VOUCHER CHECK No. 291.....		64 38
	MESSRS. W. J. & J. G. DENHARDT		
	To commission on advertising.....	51 58	
	(25 per cent. of \$206.31)		
	To commission on renewals.....	12 80	
	(15 per cent. of \$85 32)		
AUG. 26.	VOUCHER CHECK No. 292.....		25 00
	DR. L. H. SOUTH		
	To salary to September 1		
AUG. 26.	VOUCHER CHECK No. 293.....		60 00
	MARY STALLARD		
	To salary to September 1		
AUG. 26.	VOUCHER CHECK No. 294.....		277 85
	TIMES-JOURNAL PUBLISHING COMPANY		
	To Jefferson County Number, 2,000 copies, 48 pages	135 00	
	To changes from copy, resetting, etc.....	3 85	
	To 4,000 envelopes.....	4 00	
	To September 1 issue Jefferson County Number, 2,000 copies, 48 pages	135 00	

EXHIBIT "C."

Detailed statement of disbursements of W. B. McClure, Treasurer Medical Defense Branch of the Kentucky State Medical Association, each made on a Voucher Check signed by J. J. Moren, Chairman; A. T. McCormack, Secretary, and himself, from September 1, 1909, to September 1, 1910.

OCT. 23.	VOUCHER CHECK No. 16.....		\$ 36 90
	DR. J. W. KINCAID		
	To expenses to Louisville.....	\$ 18 25	
	To expenses to Louisville.....	18 65	
DEC. 11.	VOUCHER CHECK No. 17.....		100 00
	TYE & SILER		
	Legal fee in Parker case.....		
1910			
FEB. 2.	VOUCHER CHECK No. 18.....		4 00
	DR. JOHN E. PACK		
	To excess fee of Dr. W. H. Coffman.....		
APRIL 3.	VOUCHER CHECK No. 19.....		225 00
	McCHORD, HINES & NORMAN		
	To compensation legal service, 1909.....	250 00	
	To expenses to Danville.....	5 00	
APRIL 5.	VOUCHER CHECK No. 20.....		2 30
	L. P. LAY, Clerk Whitley Circuit Court		
	To filing answer, 15; order, 25; steps, 10.....	50	
	To filing amended answer, 15; order, 25; steps, 10.....	50	
	To issuing subpoena.....	30	
	To judgment for cost, 15; steps, 10.....	60	
	To taxing cost; indexing, 10.....	40	
JUNE 1.	VOUCHER CHECK No. 21.....		24 75
	TIMES-JOURNAL PUBLISHING COMPANY		
	To 3,000 Constitution and By-Laws.....	12 50	
	To 3,000 application blanks.....	7 00	
	To 2,400 circular letters.....	5 25	

AUG. 5. VOUCHER CHECK NO. 22.....

6 00

KENTUCKY STATE MEDICAL ASSOCIATION

To error May 21, Association dues from Adair County credited to Medical Defense Fund.

EXHIBIT "D."

Detailed list of receipts from county societies from September 1, 1909, to September 1, 1910, compared with incomes of same period last year.

County.	1908-9	1909-10
Adair	\$ 36 00	\$ 24 00
Allen	28 00	20 00
Anderson	20 00	12 00
Ballard	46 00	40 00
Barren	36 00	40 00
Bath	36 00	36 00
Bell	44 00	50 00
Boone	30 00	26 00
Bourbon	44 00	46 00
Boyd	42 00	32 00
Boyle	36 00	32 00
Bracken	18 00	2 00
Breathitt	8 00	8 00
Breckinridge	34 00	30 00
Bullitt	32 00	22 00
Butler	22 00	14 00
Caldwell	35 00	34 00
Calloway	38 00	42 00
*Campbell-Kenton	177 00	.....
Carlisle	28 00	30 00
Carroll	31 00	30 00
Carter	42 00	38 00
Casey	27 00	18 00
Christian	84 00	66 00
Clark	53 00	44 00
Clay	20 00	20 00
Clinton	12 00	16 00
Crittenden	27 00	26 00
Cumberland	16 00	18 00
Daviess	185 00	138 00
Elliott	12 00	14 00
Estill	12 00	8 00
Fayette	132 00	130 00
Fleming	24 00	30 00
Floyd .....	.....	.....
Franklin	42 00	48 00
Fulton	34 00	36 00
Gallatin	2 00	14 00
Garrard	23 00	20 00
Grant	30 00	22 00
Graves	44 00	28 00
Grayson	52 00	38 00
Green	16 00	12 00
Greenup	24 00	14 00
Hancock	6 00	2 00
Hardin	56 00	56 00
Harlan	8 50	6 00
Harrison	50 00	50 00
Hart	32 00	32 00
Henderson	85 00	64 00
Henry	41 00	36 00
Hickman	34 00	26 00
Hopkins	68 00	66 00
Jackson	16 00	4 00
Jefferson	466 00	310 00
Jessamine	18 00	16 00
Johnson	24 00	16 00
Knott	10 00	8 00
Knox	32 00	30 00
*La Rue	22 00	6 00
Laurel	16 00	20 00
Lawrence	8 00	8 00

Lee	12 00	8 00
Leslie	6 00	6 00
Letcher .....	.....	.....
Lewis	16 00	17 00
Lincoln	32 00	16 00
Livingston	18 00	18 00
Logan	52 00	54 00
Lyon	12 00	14 00
McCracken	83 00	88 00
McLean	22 00	32 00
Madison	40 00	14 00
Magoffin	2 00	.....
Marion	38 00	36 00
Marshall	34 00	32 00
Mason	37 00	30 00
Meade	26 00	16 00
Menifee	4 00	4 00
Mercer	38 00	38 00
Metcalf	26 00	20 00
Monroe	32 00	2 00
Montgomery	20 00	24 00
Morgan	4 00	.....
Muhlenberg	60 00	54 00
Nelson	42 00	40 00
Nicholas	26 00	24 00
Ohio	38 00	18 00
Oldham	28 00	26 00
Owen	28 00	30 00
Owsley	8 00	8 00
Pendleton	46 00	44 00
Perry	6 00	.....
Pike	18 00	24 00
Powell	21 00	20 00
Pulaski	52 00	44 00
Robertson	6 00	6 00
Rockcastle	18 00	18 00
Rowan	20 00	10 00
Russell	16 00	6 00
Scott	38 00	36 00
Shelby	56 00	48 00
Simpson	30 00	30 00
Spencer .....	.....	16 00
Taylor	22 00	22 00
Todd	40 00	36 00
Trigg	23 00	4 00
Trimble	19 00	17 00
Union	50 00	40 00
Warren	124 00	114 00
Washington	28 00	18 00
Wayne	13 66	14 00
Webster .....	.....	16 00
Whitley	44 00	66 00
Wolfe	14 00	16 00
Woodford	38 00	19 00

*Dues received after September 1, 1910.

EXHIBIT "F."

INVOICE OF PROPERTY OF ASSOCIATION, SEPTEMBER 1, 1910.

Addressograph with 5,000 complete address plates with listing device, etc.	\$ 500 00
Folding machine	140 00
2 Oliver Typewriters	200 00
Typewriter cabinet	33 00
Typewriter chair	8 00
Rubber stamps	9 00
550 Ledger cards	1 25
Guide cards	7 48

Filing cases	64 75
60 blank charters	3 75
Stationery	3 20
1-3 adding machine	106 25
1-3 Dupligrph	103 32
3475 No. 5 2-cent stamped envelopes	74 42
4400 No. 8 2-cent commercial stamped envelopes..	96 08
500 lbs. type metal	41 51
Membership buttons	84 00
Total	\$1,434 50
Reduction for depreciation of machinery	274 81
	\$1,159 69

EXHIBIT "G."

Secretary's Monthly Balance Sheet, agreeing with the books.

1909	Expenses	Collections	Balance
September 1.....	\$.....	\$.....	\$ 4,222 46
October 1.....	909 95	843 48	4,155 99
November 1.....	1,255 96	380 03	3,280 06
December 1.....	885 82	470 77	2,865 01
January 1.....	1,023 51	949 27	2,790 77
February 1.....	999 16	1,084 87	2,876 48
March 1.....	835 90	1,489 28	3,529 86
April 1.....	1,029 95	453 08	2,952 99
May 1.....	635 87	1,457 96	3,775 08
June 1.....	874 83	1,121 83	4,022 08
July 1.....	225 84	932 92	4,729 16
August 1.....	933 08	896 03	4,692 11
September 1.....	539 39	858 15	5,010 87
Total Collections		\$10,937 67	
Balance Sept. 1, 1909		4,222 46	
		\$15,160 13	
Balance Sept. 1, 1910			5,010 87
Total Expense ..			10,149 26
			\$15,160 13

EXHIBIT "H."

Collections by Editor on account of the JOURNAL, corresponding with checks, deposit slips and receipts filed herewith.

1909	
October 1.....	\$ 445 48
November 1.....	110 18
December 1.....	416 50
1910	
January 1.....	680 02
February 1.....	657 87
March 1.....	884 28
April 1.....	98 08
May 1.....	569 96
June 1.....	393 83
July 1.....	545 42
August 1.....	541 03
September 1.....	667 15
Total	\$6,009 80
To error in credits.....	255 87
Total	\$6,265 67

EXHIBIT "I."

Collections by Secretary on account of Kentucky State Medical Association, corre-

sponding with checks, deposit slips and receipts filed herewith.

1909	
October 1.....	\$ 388 00
November 1.....	255 85
December 1.....	30 27
1910	
January 1.....	255 25
February 1.....	369 00
March 1.....	532 00
April 1.....	340 00
May 1.....	825 00
June 1.....	448 00
July 1.....	354 50
August 1.....	348 00
September 1.....	190 00

Total	\$4,335 87
By error in credits.....	255 87

Total	\$4,080 00
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EXHIBIT "K."

Balance sheet of Medical Defense Fund, corresponding with cash book, checks and deposit slips, and stubs in certificate book.

1909	Collection	Expense	Balance
October 1.....	\$.....	\$.....	\$463 27
October 1.....	10 00	.....	273 27
November 1.....	14 00	36 90	450 37
December 1.....	24 00	.....	474 37
1910			
January 1.....	14 00	100 00	388 37
February 1.....	58 00	4 00	442 37
March 1.....	73 00	.....	515 37
April 1.....	15 00	257 30	273 07
May 1.....	63 00	.....	336 07
June 1.....	280 00	24 75	591 32
July 1.....	33 00	.....	624 32
August 1.....	7 00	6 00	625 32
September 1.....	1 00	.....	626 32
	\$592 00	\$428 95	
Total Collection.....		\$592 00	
Balance Sept. 1, 1909...		463 27	
		\$1055 27	
Balance Sept. 1, 1910			\$626 32
Total Expense			428 95
			1055 27

SECRETARY-EDITOR'S REPORT.

By again reviewing and calling attention to some of our past campaigns we can best prepare ourselves for the future. From last year's report I quote:

The New York Life Insurance Company is the only one of the so-called reputable companies which still persists in keeping as their examiners only those members of our profession whose loss of self-respect or lack of attainment permit them to rate themselves as little better than half doctors. While such men are a reproach to the profession it must be constantly kept in mind that it is not because they are cheap, for most of them are paid more than their services are worth, but because their professional training has not been sufficient to entitle them to the modest compensation for the responsible duties of

the medical life insurance examiner. It is a matter of regret that medical students are not always so grounded in physical diagnosis and the simpler laboratory methods of diagnosis as to make their examination of real value, and the profession should demand quite as earnestly as it did that its members should be justly paid that they should be properly equipped for service.

In the same way and of even greater importance, because it is not a mere matter of dollars and cents nor of financial responsibility, is the great question of drug reform, and the resulting propaganda for a return to the national standards—the Pharmacopeia and the National Formulary. That many lives have been sacrificed by the use of hand-me-down pharmaceutical preparations, of whose composition and indications not only the manufacturer but the prescriber are frequently entirely ignorant, cannot be denied. It is to be remembered that practically every doctor in Kentucky—members and non-members alike—signed an agreement that they would prescribe no medical preparation not recognized in the U. S. P. or N. F. unless it had first been examined and claims as to its chemical composition verified by the Council in Pharmacy and Chemistry of the American Medical Association. From several different counties reports have come that members of the profession are not living up to this obligation. This was to have been expected. It is unfortunate, but true, that an almost negligible minority of our profession has but little idea of moral obligation, and to this class a pledge signed is a pledge forgotten. A still larger class were so entirely untaught in college in pharmacology and materia medica and have been so constantly the prey of the nostrum manufacturers since their graduation that it is a matter of mental impossibility for them to carry out the pledge in the letter however much they might desire to do so in the spirit. Omitting these two elements, which represent its least intelligent and most unprogressive part, it is a pleasure to say that from careful personal investigation in many sections of the State I find that the profession is returning to that practical study of drug therapy which is essential to our success in the most important element of our vocation—that of therapeutists. It only remains for us to convince our medical colleges of the importance of this movement so that the newer additions to the profession may not be hampered by the same lack of proper instruction along those lines that has characterized practically every medical school in the Union for the past decade.

That this effort to free the profession from the tentacles of the nostrum manufac-

turers should have met their active opposition was to be expected, but it has been more difficult to explain the continued attitude of some of our medical journals. That such established publications as the *Boston Medical and Surgical Journal*, or the *Medical Record*, owned and published by laymen, should continue to exploit the profession to which they owe their allegiance and support, is only surprising because men who know better are still connected with their editorial departments, but that many so-called medical journals, owned and edited by doctors, are still willing to help mislead their own fellows is inexplicable, except on the ground of downright dishonesty. Fortunately for the profession, ample medical periodical literature of the highest scientific and practical value can now be obtained by any physician who desires it. The various medical organizations have proven the possibility of conducting medical journals honestly, and, at the same time, profitably.

In addition to other privately owned medical publications with clean advertising pages, it is a pleasure to call your especial attention to the *Gulf States Journal of Medicine and Surgery*, *The Journal of the Southern Medical Association*, of which the genial Dr. Seale Harris is editor. This journal and others of its class deserve, and will doubtless receive, your substantial support.

Your attention is also called to increased requirements for admission to medical colleges adopted by our State Board of Health after a conference with the trustees and faculty of the University of Louisville. This action puts Kentucky in the front rank and will enable us to continue the almost universal reciprocity we are now enabled to offer our members. The new requirements:

"For entrance to a medical college the State Board of Health of Kentucky hereby establishes the following minimum preliminary educational requirements for medical colleges:

"No student shall be finally accepted for matriculation in any medical college until he has presented to the dean of such college a certificate from a preliminary examiner appointed and under the control of the State Board of Examiners of the State in which the college is located, which may be based upon (1) acceptable credentials or (2) upon examination.

"The credentials which may be accepted are as follows: (a) A diploma from a reputable college granting the degree of A. B., B. S., or equivalent degree; (b) a diploma from a high school of the first grade, normal school or seminary, legally constituted, issued after four years of study; (c) a teacher's perma-

nent or life certificate; (d) a certificate of admission to a state university or any other institution that is a member of the Association of American Universities, provided one year's work has been successfully completed in the institution after admission, (e) a certificate issued by the College Entrance Examination Board for fourteen units.

"In the absence of the foregoing qualifications, the Entrance Examiner may examine the applicant in such branches as are required for graduation from a first-class high school of this state, and to pass such examination is deemed sufficient qualification. If the examination is passed and a fee of \$5 is paid, a medical student's entrance certificate is issued.

"A general average of 75 per cent is required.

"No medical college matriculating students without such a certificate of preliminary education as above required shall be considered reputable."

The practical enforcement of the above requirement means much for the future of medical education. The University of Louisville is peculiarly the ally of this Association. The majority of our members graduated from it. With our support we can place it in the front rank amongst medical colleges.

It is a matter of regret that almost half of our membership are still not members of the American Medical Association. Did these members understand the benefits to be derived, especially from the great *Journal of the American Medical Association*, which itself is worth more than the \$5.00 subscription and annual dues. I might add that the Department of Therapeutics in that *Journal*, conducted by one of the master minds of the profession, is worth more to the thoughtful practitioner each week than his yearly dues.

The Medical Defense against unjust malpractice suits has organized successfully and has made good headway in spite of that *vis inertia naturae*, which is the bane of all medical co-operative enterprise. The average thoughtless doctor either arranges for no defense against the blackmailers who bring these suits, or prefers paying fifteen times as much as it is worth for a policy in a lay company, which does its work technically on a purely commercial basis, rather than have himself cared for by his own friends in his own profession at a minimum cost. Our Medical Defense Branch is already an assured success, as far as its membership is concerned, and it will eventually be used and appreciated by the vast majority of our members, if it be

continued upon its present plan. I feel assured, however, that the Constitution of this Branch, as published in this issue of the *JOURNAL*, as admirable as it is as a business and protective plan, is not in accord with the purposes and spirit of our organization. No provision is made in the Constitution of our association for any other than members of the component societies. It is the evident intention that all who are members shall have the same privileges. For this reason it has been urged by many of our physicians that we should adopt the plan of defense which has been successful in every other State which has adopted it—that of defending every member of every component society in the State unjustly accused of the commission of an act of malpractice. The State Association has a surplus in its treasury today of more than five thousand dollars, including \$626 of the Defense Fund, and an appropriation of one thousand dollars, or such part of it as may be necessary, to the Defense Committee, to be used for the purposes for which it is credited, would afford ample funds for a year. If it became necessary at any future time to increase the dues 50 cents or \$1.00 for each member in order to carry on this work successfully, the membership would cheerfully bear such an additional burden if at that time it continued to prove a good investment. It is a pleasure to congratulate you upon the presence here during this meeting of Dr. Edmund Weiss, the Secretary of the Illinois State Medical Society and President of the Association of State Secretaries and Editors, the greatest medical authority upon malpractice, who will make a special address to the House of Delegates upon this subject, at the request of the Council.

As your representative on the Pure Drug Commission I desire to report as follows:

In addition to the regulations adopted by the Drug Commission on January 9th, 1909, the following amendment was adopted November 9th, 1909:

"In order to carry into effect the purpose and intent of the Kentucky Food and Drugs Act in prescribing that the quantity or proportion of any such substance shall be stated, the terms 'quantity' or 'proportion' are defined to mean, in respect to alcohol, the percentage by volume of absolute alcohol in the finished product. And in reference to any other substance named in the law, the terms 'quantity' or 'proportion' are defined to mean grains or minims per unit dose. The State Food and Drugs Act plainly intends that the consumer shall know the amount of drug taken in each dose, and the only way to give consumers such information is to express the amount with respect to the unit dose."

This regulation was adopted to carry into effect the following principles and meaning of paragraph four of section seven of the Food and Drugs Act, which paragraph provides in part:

"If the package, box, bottle, phial, can or other container shall fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative, or any preparation of any such substances contained therein."

It was apparent to those of us connected with the enforcement of the Drug Law, that the information on the label as to the amount of morphine, cocaine, etc., should be in such form as would give information to the consumer of the amount or proportion with respect to each dose. Such intent on the part of the Legislature is made plain in the admirable general provision relating to labels, which provision in paragraph 6 of section 4, states:

"And all such labels and all labeling of packages provided for in any provisions of this act shall be on the main label of each package and in such position and character of type and terms as will be plainly seen, read and understood by the purchaser or consumer."

Showing that the Legislature not only had the consumer in mind, but provided that all labeling shall be in such form and terms as to be of benefit to the consumer.

In this respect, it was found that the State law must differ from the Federal law. The Federal law applies to interstate commerce and applies as between a manufacturer or wholesaler, or as between a wholesaler and a retailer.

It is plain that the manufacturer, wholesaler or retailer would only be interested in knowing that the preparation contained opium or cocaine, and the amount or proportion contained without reference to the dose, and the Federal law, being necessary primarily for the purpose of establishing regulations to control practices among the manufacturers and wholesalers, followed a form of labeling which would be applicable to requirements among the trade, rather than to the retail sales, from broken packages, to the consumer.

There is no reason, however, why the laws should not be uniform in this respect, and there is no reason why the Federal law should not provide for such a form of labeling as will convey the information required to be stated, in the form necessary for the consumer.

The enforcement of the law after the regulations are established, is had through the Di-

vision of State Food and Drug Inspection at the Experiment Station.

Since active operations were begun under this law in April of 1909, sixteen hundred samples of tinctures, patents, chemicals and various remedies and preparations have been taken from the market for examination. These have been taken in all parts of the State, from Ashland to Hickman, in small towns and large cities, and in both accessible and inaccessible places. Samples have been taken from the wholesale and retail druggists, and the products prepared both in and out of the State.

The educational policy is followed wherever possible, by the Division, in inaugurating the enforcement of the law. Inspectors have gone through the retail and wholesale drug establishments, from cellar to attic, giving the proprietors the benefit of all available information, and taking samples wherever the condition of the product is not known, or wherever there is an evident disregard of the law's provisions.

After the samples are thus taken from the market, they are submitted for analysis, and it is necessary for the drug chemist to become a veritable expert in many lines of the work, each of which have special experts devoting their time and attention on the part of the trade. For example: Many of the manufacturers have experts working on glycerines and hydrogen peroxides, or some other product exclusively and constantly. Some of the trade work to refine their products up to the Pharmaceutical standard: others in the trade work to put their products in such condition as will confound the tests as laid down by the Pharmacopoeia, and it is necessary for the man who is doing this work on the part of the State, to keep up with the work being done by the experts advising the trade.

When the inspector goes into a drug store, all old patents of known composition, and which it is not necessary to analyze, are pointed out. The Inspector also notes this on a blank form which is sent into the office, checked and mailed to the druggist. After a warning of this character, samples are taken for the prosecution. After sample has been sent in and analyzed, the data of the chemist and the analyst is further considered by the head of the Division, and, in event of a first offense, the retailer, wholesaler or manufacturer affected, is given a hearing as provided for in section 9, of the Food and Drugs Act. The Division has held over two hundred and fifty of these hearings, and this action, in connection with the work of the drug inspectors and the chemist, have alone resulted in a far-reaching clean-up of drug products.

Manufacturers of glycerine and alcohol,

for example, find it necessary to give Kentucky the middle and choice runs of their stills, in order to meet the active enforcement of the Pharmaceutical standard. The hydrogen peroxides are turning up with less free acid. The citric acids and tartaric acids, spirits of turpentine, camphor cubes, etc., sent in Kentucky, are being packed from the choicer and more refined grades.

One of the chief problems which the Division reports, is the lack of proper care on the part of the retail trade, with respect to drugs liable to deterioration. Many of the drug products, as the medical profession knows, are liable to deterioration, and in order to guard against this, some of the products must be put into small bottles, to be opened only when required for use; others must be kept in well-stoppered bottles, away from the light and in cool temperatures. Notwithstanding this, however, the Division has found stocks of deteriorated products which have been handed from one druggist to another, or which have been exposed in a manner directly prohibited by the Pharmacopoeia, and which are minus practically all of the active medicinal principles intended in the doctor's prescription. To remedy conditions with respect to deteriorated drugs, the manufacturers will be asked to put upon the drug the limit of time beyond which it will not conform to the Pharmacopoeia standard, and the proper method for its care and protection in the retail trade.

The manufacturers will be asked to do this to guard their trade reputation whenever products bearing their label are found to be below strength, and such requirements should be made a part of the Food and Drugs Act. Such requirements are not altogether necessary for the protection of the consumer, for, if the drugs sold to the consumer are below the standard, the law provides a penalty irrespective of trade conditions. But such a provision is needed more than anything else for the protection of the manufacturers of high-class preparations, necessarily liable to deterioration when not properly cared for.

There has been a widespread investigation of such tinctures as opium, camphor, iodine, etc., put up by the local pharmacists. The tinctures of opium have been found to range as low as only twelve per cent. (12 per cent.) of the required U. S. P. strength for opium. Tinctures of iodine have been found to range as low as only about thirty per cent. (30 per cent.) of the required strength for iodine, and to contain no potassium iodide, as required by the Pharmacopoeia.

The Division has before it at the present time, over two hundred and fifty drug cases in which hearings have been given for the

first offense, as provided for in the Act, and every case which should be prosecuted will be reported for action at the fall terms of the various courts. This list includes preparations put up by a large number of cut-rate druggists, as well as by careless pharmacists working in many of the higher class drug stores. It is the opinion of the Division that prosecution can be made direct against the negligent drug clerk, and in every instance where it appears to be no fault of the proprietor of the store, and this policy will be pursued wherever the facts warrant it.

The Division has found such a widespread shortage on the part of many of the retail druggists, that arrangements will be made to conduct a two-weeks' school, open and free to every registered pharmacist residing in the State. At such a school, the law and the provisions of the law will be carefully explained; the correct forms of labeling with respect to the various patent and proprietary preparations, will be pointed out; and regular lessons given in the proper mixing and preparation of the various tinctures and compounds which the pharmacist is called upon to mix and prepare. Such a school will have the active support of the leading pharmacists of the State, and should accomplish practical results. In connection with the educational work, the chemist of the Division is preparing such technical bulletins, as for example: a bulletin which relates to the proper preservation of drugs and drug products.

The physicians' prescriptions will be taken up during the coming year, and the Division asks the co-operation of the physicians in this line of work. And, wherever either a local druggist or physician suspects a substitution with respect to prescriptions, the Division will treat any information concerning this, with strictest confidence, and will institute an investigation.

Another line of work during the coming year, will be an investigation of the drugs kept in stock by the physicians of the State. The law plainly applies to all such preparations, and they will be investigated and determined whether or not the requirements of the law are being complied with. Physicians will evidently welcome and co-operate in such an investigation.

For the first time since 1899 our membership shows a decrease in numbers as compared with the previous year, as is shown by the following table:

1899.....	280
1903.....	1038
1904.....	1386
1905.....	1348
1906.....	1609

1907	1769
1908	1977
1909	2071
1910	1872

This decrease is explained by the falling off in membership in the Jefferson County Medical Society, due in big measure to a necessary increase in their dues to \$12.00 in order to provide for the larger activities of that splendid society, and by the large number of our members who have removed to other States under the benefits of our liberal reciprocity agreements.

The attached tables show in great detail not only the changes in the past few years in the membership of each county society, in each Councilor district, and in the State at large, but again this year I have attempted an analysis of the unorganized element in the profession, which, even if it be but, at best, an approximation, is not without interest and value.

FIRST DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Ballard	11	15	23	23	23	20	...	3
*Caldwell ...	16	17	22	22	18	18	...	1
Calloway	19	20	20	10	19	21	2	...
Carlisle	15	15	17	13	14	15	1	...
Fulton	4	6	14	21	17	18	1	...
Graves	18	15	21	20	21	17	...	4
Hickman	18	20	18	19	17	13	...	4
Livingston ...	...	3	1	12	9	9	...	...
Lyon .....	...	...	...	...	6	7	1	...
Marshall	13	13	11	16	17	16	...	1
McCracken ..	43	43	36	43	42	44	2	...
Trigg	11	1	10	2	10	4	...	6
Total	168	168	193	199	207	201	7	19

SECOND DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Breckinridge .	15	13	14	13	17	15	...	3
Crittenden ..	...	12	13	12	13	13	...	...
Daviess	59	59	65	65	72	69	...	3
Hancock .....	...	6	4	1	2	1	...	1
Henderson ..	28	32	28	39	37	34	...	3
Hopkins	8	19	15	24	34	33	...	1
McLean	5	...	10	8	11	16	5	...
Muhlenberg .	15	18	17	32	28	27	...	1
Ohio .....	...	12	19	16	19	9	...	10
Union	18	29	27	25	25	20	...	5
Webster	5	...	...	...	...	8	...	...
Total	148	205	212	235	258	246	13	27

THIRD DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Allen	10	11	12	12	14	10	...	4
Barren	21	23	21	19	18	20	2	...
Butler	13	13	15	13	10	7	...	3
Christian ...	24	26	34	34	37	33	...	4
Cumberland .	13	9	9	8	8	9	1	...
Logan	19	24	26	28	26	27	1	...
Metcalf	11	12	11	11	13	10	...	3
Monroe	13	16	17	15	15	1	...	14
Simpson	8	14	10	10	15	15	...	...
Todd	18	22	21	22	19	18	...	1
Warren-Edmonson ...	39	44	54	58	63	63	...	...
Total ...	189	214	230	230	238	213	4	29

FOURTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Bullitt	7	17	16	16	15	11	...	4
Grayson .....	...	24	21	21	26	19	...	7
Hardin	17	34	28	29	23	28	5	...
Hart	14	14	20	18	15	16	1	...
Henry	13	17	20	21	20	18	...	2
La Rue	9	7	7	7	11	11	...	...
Meade	10	9	7	8	13	8	...	5
Nelson	15	17	21	21	21	20	...	1
Oldham	11	9	12	15	14	14	...	...
Shelby	17	20	18	25	28	24	...	4
Total	113	168	170	181	186	169	6	23

FIFTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Anderson ...	12	6	13	13	10	6	...	4
Boone	11	11	10	9	14	13	...	1
Carroll	11	11	12	13	16	15	...	1
Franklin	18	18	20	22	20	24	4	...
Gallatin	5	...	...	1	1	7	6	...
Jefferson	139	179	214	309	277	155	...	122
Owen	13	12	11	13	14	15	1	...
Spencer	5	...	...	...	...	8	...	...
Trimble	7	7	9	9	10	9	...	1
Total	240	249	289	389	362	252	11	129

SIXTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Adair	4	11	15	18	17	12	...	5
Boyle	14	15	15	9	15	16	1	...
Green	7	5	11	9	8	6	...	2
Marion	23	22	20	19	19	18	...	1
Mercer	13	13	10	14	19	19	...	...
Taylor	9	9	8	10	11	10	...	...
Washington ...	...	18	14	15	14	9	...	5
Total	79	93	93	94	103	91	1	13

SEVENTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Casey	10	15	15	14	13	9	...	4
Clinton .....	...	6	9	6	6	8	2	...
Garrard	8	10	9	10	10	10	...	...
Lincoln	12	11	16	17	12	13	1	...
Pulaski	19	23	28	27	23	22	...	...
Rockcastle ..	10	6	9	9	9	9	...	...
Russell .....	...	8	8	6	8	3	...	5
Wayne	7	8	10	10	7	7	...	...
Total	66	87	104	99	87	81	3	9

EIGHTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Bourbon	24	24	21	20	12	23	11	...
Bracken	4	...	11	...	9	1	...	8
Campbell-Kenton ...	52	58	65	75	86	87	1	...
Fleming	15	13	15	14	12	10	...	2
Grant	13	6	12	11	15	11	...	4
Harrison ...	20	27	28	28	25	25	...	...
Jessamine ...	8	8	11	9	7	8	1	...
Mason .....	...	15	13	14	16	15	...	1
Nicholas	5	14	13	6	13	12	...	1
Pendleton ...	2	12	15	19	23	22	...	1
Robertson ...	3	3	3	2	3	3	...	...
Scott	19	21	18	18	19	18	...	1
Woodford ...	8	2	11	1	19	9	...	10
Total	173	203	236	217	259	224	2	28

NINTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Boyd	18	15	17	19	21	17	...	4
Carter .....	...	...	22	22	21	19	...	3
Elliott	3	...	...	5	6	7	1	...
Floyd .....	...	...	...	11	...	...	...	...
Greenup .....	...	...	...	11	12	7	...	5

Johnson	...	...	17	11	7	...	4
Lawrence	...	...	2	15	3	4	1
Lewis	3	...	4	8	7	9	2
Magoffin	...	...	...	...	1	...	...
Martin	...	...	...	...	...	...	...
Pike	...	5	11	10	9	12	3
Total	24	23	34	118	91	82	7

TENTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Bath	12	19	16	17	15	17	2	...
Breathitt	5	4	5	3	4	5	1	...
Clark	14	16	12	21	27	22	...	5
Estill	8	9	9	8	7	4	...	3
Fayette	43	42	49	55	64	65	1	...
Knott	...	...	...	...	4	5	1	...
Lee	...	5	4	8	5	4	...	1
Letcher	...	...	3	...	...	...	...	...
Madison	20	13	17	19	20	7	...	13
Menifee	...	...	...	2	3	2	...	1
Montgomery	10	6	6	9	10	12	2	...
Morgan	...	3	7	...	...	...	...	...
Owsley	4	4	5	5	4	4	...	...
Perry	...	...	...	...	3	...	...	...
Powell	10	8	12	9	11	10	...	1
Rowan	3	10	10	6	10	5	...	5
Wolfe	6	9	9	6	7	8	1	...
Total	135	148	164	168	194	170	8	29

ELEVENTH DISTRICT.

County	1905	1906	1907	1908	1909	1910	Inc.	Dec.
Bell	9	10	13	28	22	19	...	3
Clay	...	5	9	7	9	10	1	...
Harlan	...	3	4	6	4	3	...	1
Jackson	...	...	1	6	5	2	...	3
Knox	12	12	12	11	13	15	2	...
Laurel	8	12	9	12	8	10	2	...
Leslie	...	...	...	...	3	3	...	...
Whitley	13	12	9	11	22	31	9	...
Total	42	54	57	81	86	93	13	7

The following table shows the population in each county, the total number of physicians, the number of persons to each physician, the total number of members, the total number of non-members, the total of non-members eligible to membership, the total of non-members, who, while registered physicians, and therefore necessarily carried in the total, are not eligible to membership. The table also shows the number of doctors who have graduated since 1903, who are non-members, and the last column gives the percentage of eligible physicians enrolled in their county organizations:

FIRST DISTRICT.

County.	Population.	Total No. of Physicians.	Population to each Physician.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1903.	Per Cent. of Eligible Physicians in Co. So.
Ballard	10,761	30	355	20	10	7	3	1	.66
Caldwell	14,510	29	500	16	6	13	7	0	.55
Calloway	17,633	28	629	21	7	6	0	2	.75
Carlisle	10,105	19	531	15	4	4	0	1	.78
Fulton	11,546	28	412	18	5	10	5	1	.64
Graves	33,204	55	603	17	38	38	0	6	.27
Hickman	11,745	21	559	13	8	7	1	1	.61
Livingston	11,354	19	597	9	10	10	0	4	.47
Lyon	9,319	8	1,164	7	1	1	0	0	.87
Marshall	13,629	23	592	15	8	8	0	2	.64
McCracken	28,733	63	457	44	19	19	0	4	.69
Trigg	14,702	14	1,005	4	10	10	0	3	.15
Total	186,612	337	7,404	199	126	133	16	25	.59

SECOND DISTRICT.

Breckinridge	20,534	33	622	16	17	17	0	0	.45
Crittenden	15,191	18	843	13	5	5	0	1	.72
Daviess	38,667	78	495	68	10	2	2	0	.87
Hancock	8,914	13	685	1	12	12	0	2	.07
Henderson	32,907	53	748	33	20	13	7	3	.62
Hopkins	30,995	59	525	33	26	23	3	3	.55
McLean	12,448	23	541	16	7	6	1	1	.69
Muhlenberg	20,741	40	518	27	13	13	0	4	.67
Ohio	27,287	37	697	9	28	27	1	1	.23
Union	21,326	29	735	19	10	8	2	3	.65
Webster	20,097	42	478	6	36	36	0	8	.14
Total	249,097	425	6,887	241	183	162	16	26	.56

THIRD DISTRICT.

Allen	14,657	15	977	10	5	5	0	1	.66
Barren	23,197	27	855	19	8	7	1	0	.70
Butler	15,896	13	1,222	7	6	6	0	0	.53
Christian	37,962	71	534	35	29	22	7	7	.49
Cumberland	8,962	14	640	8	6	6	0	0	.57
Logan	25,994	35	742	26	9	9	0	0	.71
Metcalfe	9,988	13	768	10	3	3	0	0	.76
Marion	13,053	21	521	19	2	2	0	1	.90
Simpson	11,624	20	531	15	5	5	0	0	.75

County.	Population.	Total No. of Physicians.	Population to each Physician.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1903.	Per Cent. of Ineligible Physicians in Co. So.
Todd	17,371	24	723	15	9	5	4	1	.62
Warren-Edmonson	40,050	63	715	63	0	0	0	0	.100
Monroe	13,053	24	543	1	23	23	0	5	.03
Total	231,907	340	8,771	216	111	93	12	15	.74
FOURTH DISTRICT.									
Bullitt	9,602	21	476	11	10	10	0	3	.52
Grayson	19,878	30	662	19	11	10	1	3	.63
Hardin	22,937	46	498	31	15	15	0	6	.69
Hart	18,390	25	695	16	9	6	3	1	.64
Henry	14,620	30	487	18	12	9	3	3	.60
Larue	10,764	13	828	10	3	3	0	2	.76
Meade	10,533	11	957	8	3	3	0	3	.72
Nelson	16,587	19	872	18	1	1	0	0	.94
Oldham	7,098	15	473	13	2	2	0	0	.86
Shelby	18,340	32	573	24	8	8	0	1	.75
Total	148,689	242	6,021	168	77	67	7	22	.69
FIFTH DISTRICT.									
Anderson	10,051	17	591	6	11	9	2	4	.35
Boone	11,170	26	429	13	13	13	0	3	.50
Carroll	9,825	16	614	15	1	1	0	0	.94
Franklin	20,852	35	595	23	12	12	0	1	.65
Gallatin	5,163	10	516	7	3	3	0	0	.70
Jefferson	232,549	617	376	155	462	362	100	292	.25
Owen	17,553	24	731	15	9	9	0	1	.62
Spencer	7,406	15	493	8	7	7	0	2	.53
Trimble	7,272	11	661	9	2	2	0	0	.81
Total	311,790	734	4,415	245	507	509	0	202	.33
SIXTH DISTRICT.									
Adair	14,888	21	708	10	10	10	1	1	.47
Boyle	13,817	22	628	21	1	1	0	1	.95
Green	12,255	8	1,531	6	1	1	0	0	.75
Marion	16,290	20	814	17	0	0	3	0	.85
Mercer	14,426	27	534	19	8	8	0	1	.70
Taylor	11,075	13	852	11	2	2	0	1	.84
Washington	14,182	15	945	9	6	6	0	1	.60
Total	321,841	751	5,006	251	518	418	102	303	.18
SEVENTH DISTRICT.									
Casey	15,144	15	1,009	9	6	6	0	3	.60
Clinton	7,871	9	874	8	1	1	0	0	.88
Garrard	12,042	13	926	10	3	3	0	0	.76
Lincoln	17,059	26	656	10	16	16	0	2	.38
Pulaski	31,293	35	891	21	14	14	0	6	.60
Rockcastle	12,416	13	955	8	5	3	2	1	.61
Russell	9,695	13	745	3	10	10	0	3	.23
Wayne	14,892	12	1,241	7	5	5	0	1	.58
Total	120,412	136	6,393	76	60	58	2	16	.57
EIGHTH DISTRICT.									
Bourbon	18,069	37	515	23	14	14	0	4	.62
Bracken	12,137	18	679	2	16	16	0	4	.88
Campbell-Kenton	117,814	179	653	87	92	178	1	19	.48
Fleming	7,074	25	685	15	10	7	3	1	.60
Grant	13,239	27	490	11	16	16	0	2	.40
Harrison	18,570	35	530	25	10	10	0	4	.71
Jessamine	11,925	20	586	8	12	12	0	1	.40
Mason	20,446	31	659	13	18	18	0	4	.41
Nicholas	11,952	20	547	12	8	8	0	2	.60
Pendleton	14,947	24	622	20	4	4	0	0	.83
Robertson	4,900	9	544	3	6	6	0	3	.32
Scott	10,076	24	419	18	6	6	0	0	.75
Woodford	13,134	23	571	9	14	14	0	1	.39
Total	284,283	472	7,540	226	226	329	4	45	.48

		NINTH DISTRICT.							Per Cent. of Ineligible Physicians in Co. So.
County.	Population.	Total No. of Physicians.	Population to each Physician.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1903.	
Boyd	18,834	30	627	16	14	14	0	2	.50
Carter	20,228	25	777	19	6	6	0	1	.76
Elliott	10,387	7	1,483	6	1	1	0	0	.85
Floyd	15,552	17	915	0	17	16	1	7	.00
Greenup	15,432	15	1,028	7	8	9	0	3	.56
Johnson	13,730	24	572	7	17	17	0	5	.25
Lawrence	19,612	30	653	4	26	26	0	10	.13
Lewis	17,868	18	992	8	10	11	0	2	.44
Magoffin	12,006	10	1,200	0	10	10	0	4	.00
Martin	5,780	4	1,415	0	4	4	0	2	.00
Pike	22,686	26	872	12	13	13	0	11	.46
Total	172,115	206	10,564	89	127	127	1	40	.43
		TENTH DISTRICT.							
County.	Population.	Total No. of Physicians.	Population to each Physician.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1903.	
Bath	14,734	22	669	18	4	4	0	1	.81
Breathitt	14,322	7	2,046	4	3	3	0	1	.57
Clark	16,694	31	535	22	9	9	0	0	.70
Estill	11,669	15	777	4	11	11	0	6	.26
Fayette	42,071	94	447	63	31	24	7	3	.64
Knott	8,704	7	1,243	4	3	3	0	3	.57
Lee	7,988	11	727	4	7	7	0	3	.36
Letcher	9,172	6	1,528	0	6	6	0	5	.00
Madison	25,607	36	711	7	29	29	0	6	.19
Menifee	6,818	3	2,272	2	1	1	0	0	.66
Montgomery	12,834	21	611	12	9	9	0	1	.57
Morgan	12,792	14	913	0	14	14	0	2	.00
Owsley	6,874	4	1,718	4	0	0	0	0	.100
Perry	8,276	10	827	0	10	0	0	6	.00
Powell	6,443	10	644	10	0	0	0	0	.100
Rowan	8,277	10	827	5	5	5	0	2	.50
Wolf	8,764	13	674	8	5	5	0	1	.61
Total	222,040	314	17,169	167	147	119	7	40	.53
		ELEVENTH DISTRICT.							
County.	Population.	Total No. of Physicians.	Population to each Physician.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1903.	
Bell	15,701	40	392	26	14	14	0	7	.65
Clay	15,364	11	1,396	9	2	2	0	0	.81
Harlan	9,838	8	1,227	3	5	5	0	3	.37
Jackson	10,561	7	1,760	2	5	5	0	1	.18
Knox	17,372	20	868	14	12	8	4	3	.70
Laurel	17,592	21	836	10	11	11	0	1	.47
Leslie	6,753	3	2,276	3	0	0	0	0	.100
Whitley	25,015	49	510	31	18	18	0	3	.62
Total	118,296	159	9,265	97	62	63	4	7	.61

It is of interest that there are today, 3,708 physicians in Kentucky, an average of one to each 579 of its inhabitants. This year we have 1,872 members in our Association, and there are 1,836 physicians registered with the State Board of Health who are not members of their county societies nor of the Association. Of these, we are able to estimate that one hundred and seventy-six are totally ineligible to membership on account of retirement from practice, extreme age without ever having been interested in professional as distinguished from personal interests, or disreputability; leaving a total of sixteen hundred and sixty physicians now in active practice in the State, who are still not members of any medical society, and, what is far more astonishing, 566, or more than one-third of these non-members are young men, having graduated since 1903.

The importance to our people, to our profession and above all, to these young men themselves, of finding them and showing them the advantages of society membership, cannot be overestimated. As wonderful as has been our progress in the past few years, it is essential that we no longer permit the large unfinished element turned out of our medical colleges to grow up without the beneficent influences of local professional association, and to the successful accomplishment of this problem I desire to ask your especial instruction.

One of the special inducements to be held out to these non-members is the possibility of their one day wanting to secure reciprocity in medical licensure. The certificates of our State Board of Health are recognized in some states on the basis of an examination; in others on the basis of a diploma. The fol-

lowing states reciprocate with Kentucky on the basis of an examination only: Colorado, Delaware, District of Columbia, Illinois, Louisiana, New Hampshire, New Jersey, North Dakota, Virginia and Wyoming. With the following list of States we have reciprocity on the basis of either a diploma or an examination: Arkansas, Georgia, Indiana, Iowa, Kansas, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, Nevada, Nebraska, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia and Wisconsin. In all of these states it is a condition that the applicant shall have been for at least one year a member of his county and State medical societies and the national association of the system of medicine with which he affiliates, and that he shall be recommended as a fit subject for reciprocity by his county society at a stated meeting. In other words, doctors who are not members of their own county societies cannot register in other states without taking the regular examination, while they who are members of active societies have no trouble in doing so with a majority of the States. Older members, registered before Kentucky required an examination, have the option of taking an examination either in this State, or the State to which they intend removing.

In conclusion I desire to record my especial appreciation of the active co-operation of practically all of our county secretaries in the routine work of the year, which has been carried on under your direction. Next to the Councilors, who are the *sine qua non* of our system, the county secretary is the most important link in the whole chain. To him fall the arduous duties of making and filling the programs and the society is a strong or a weak one in exact proportion to the value of the county secretary. To your officers, and to the whole membership, I desire to extend my gratitude for the assistance and courtesy which have made the arduous duties of my position unusually pleasant during the past year.

Respectfully submitted,

A. T. McCORMACK,
Secretary.

REPORT OF THE BUSINESS MANAGER.

The following statistics will show what the JOURNAL has done in the last four years:

	1907	1908	1909	1910
No. pages of reading matter....	473	700	1,237	1,087
No. of advertising pages.....	226	210	378	514
Special Articles	3	22	27	12
Official Announcements.....	4	7	8	33
Special Society Report.....	1	3	5	6
Index	0	9	10	12
Book Reviews	27	13	36	32
Scientific Editorials	36	24	25	27
Editorials	56	58	60	111
Abstracts				60
Original Articles				227

Reference to the report the Council will

show the actual cost to the Association of printing the JOURNAL:

	1908	1909	1910
Net cost.....	\$ 52 54	\$.....	\$.....
Net profit		354 26	179 39

The above tabulation shows that the JOURNAL has been maintained by the income from its advertisers, this has been made possible by the active co-operative spirit of the county societies and the recognition of a mutual interest that exists between our advertisers and our members. No advertisement has been accepted that has not conformed to the requirements of the Council on Pharmacy and Chemistry of the A. M. A. This rigid scrutiny has added confidence to our readers in the firms that are represented in our pages and has made the JOURNAL sought for by all the firms that can meet our high standards. For the JOURNAL to continue to be conducted without an expense to the Association it is very essential that each member read what our advertisers have to offer and specify their products wherever possible, for by helping them we are able to keep all our advertisers and more readily obtain new contracts.

It is a source of special gratification to be able to state that 46 per cent. of the total membership, 860 out of the 1,857 enrolled as this goes to press, have been contributors to the JOURNAL during the past year through original or special articles, scientific editorials, the proceedings of their respective county societies or in some other way. This seems a remarkable showing, probably without a parallel in any other State, and is the more so when it is remembered that there are a number of societies which have made no report for three years. In this connection, the following figures may be both interesting and profitable to Councilors and other State society officers, showing in detail what each county has done for the JOURNAL.

	MINUTES			ORIGINAL ARTICLES		
	1908	1909	1910	1908	1909	1910
Adair	5	4	4	1	6	1
Allen	2	2	1	1	2	0
Anderson	11	4	1	0	0	0
Ballard	2	1	1	0	0	0
Barren	6	7	6	2	4	2
Bath	4	1	1	0	0	0
Boone	1	5	0	0	1	0
Bourlon	3	3	0	0	1	1
Boyd	0	3	1	0	1	1
Boyle	3	0	0	2	2	0
Bracken	1	3	0	0	0	0
Breathitt	0	0	0	0	0	0
Breckinridge	1	0	0	0	0	0
Bullitt	4	1	1	1	1	0
Butler	1	1	0	0	0	0
Caldwell-Lyon	4	7	4	0	0	0
Calloway	1	3	1	0	2	0
Campbell-Kenton	1	4	0	0	6	1
Carlisle	5	4	3	1	2	0
Carroll	4	1	2	0	0	1
Carter	4	2	3	1	0	0
Casey	5	3	0	3	1	0

	MINUTES		ORIGINAL ARTICLES										
Christian	3	12	8	12	5	3	Woodford	4	0	3	1	1	0
Clinton	2	0	0	0	0	0	Whitley	0	3	3	0	1	0
Clark	0	0	0	0	3	0	Total	249	268	165	142	238	176
Crittenden	2	3	0	1	2	2							
Cumberland	4	2	3	1	0	0							
Daviess	4	5	4	4	4	3							
Elliott	2	3	3	0	0	0							
Fayette	0	1	2	11	11	3							
Fleming	1	0	1	2	0	0							
Franklin	1	8	8	3	1	4							
Fulton	2	2	1	0	0	0							
Gallatin	1	0	0	0	0	0							
Greenup	0	5	1	0	0	0							
Garrard	3	0	0	0	0	0							
Graves	0	1	0	0	1	0							
Grayson	0	4	3	0	4	0							
Green	0	0	5	0	0	0							
Hardin	4	0	0	2	2	0							
Harlan	4	2	0	0	0	0							
Harrison	3	3	1	3	2	1							
Hart	2	2	4	1	1	2							
Henderson	0	5	4	0	2	2							
Henry	6	7	4	1	5	2							
Hickman	1	4	0	2	0	0							
Hopkins	5	6	1	1	5	1							
Jackson	1	1	0	0	0	0							
Jefferson	26	12	12	56	117	120							
Jessamine	2	0	0	0	0	0							
Knox	4	1	2	0	0	0							
La Rue	1	3	1	0	0	0							
Laurel	2	1	0	0	0	0							
Lee	1	1	0	0	1	0							
Letcher	0	0	0	0	0	0							
Livingston	1	0	0	0	0	0							
Lincoln	2	0	1	3	2	0							
Logan	1	0	0	4	13	0							
McCracken	6	5	1	3	1	3							
McLean	5	2	3	0	0	1							
Madison	0	0	0	2	1	0							
Marion	0	0	0	2	3	0							
Marshall	3	8	3	0	0	0							
Mason	2	3	0	0	0	0							
Meade	0	1	0	0	0	0							
Mercer	1	3	0	1	3	0							
Montgomery	1	1	0	0	0	0							
Metcalfe	1	3	1	0	1	0							
Monroe	3	3	0	1	0	0							
Morgan	0	0	0	0	0	0							
Muhlenburg	0	0	0	0	2	0							
Nelson	4	3	4	3	2	5							
Ohio	2	6	3	0	0	0							
Oldham	1	5	0	0	3	2							
Owsley	0	6	1	0	0	0							
Owen	6	8	6	0	0	0							
Pendleton	1	10	9	1	4	8							
Pike	2	1	0	0	0	0							
Powell	1	2	0	0	1	0							
Pulaski	0	2	1	2	1	0							
Rockcastle	0	0	0	0	0	0							
Rowan	2	2	0	0	0	0							
Russell	2	2	1	0	1	0							
Scott	2	3	5	1	0	0							
Shelby	2	2	0	2	1	0							
Simpson	2	2	1	0	0	1							
Spencer	1	0	4	0	0	1							
Taylor	1	3	2	0	2	1							
Todd	3	0	1	1	0	1							
Trigg	0	0	0	0	0	1							
Trimble	4	7	4	1	2	1							
Union	0	1	0	0	0	0							
Warren	7	10	8	6	4	0							
Washington	4	5	0	0	2	0							
Wayne	1	0	0	1	1	1							
Wolfe	1	0	2	0	0	0							

Many societies have good material for active work, but have never sent a report of their meeting to the JOURNAL. These societies need the attention of their Councilor and their members should be urged to attend their meetings and elect officers who are willing to devote their time to promote the interests of their society. As one means to this end I suggest that each society send their Secretary to the State meeting and wherever possible contribute towards his expenses.

Respectfully submitted,
L. H. SOUTH.

REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH.

The last General Assembly made it possible for this Board and the medical profession to do more for the protection of the health and lives of the people of Kentucky than was done by all the others in the history of the State. The annual appropriation of \$30,000 seems small compared with \$3,644,000 in Pennsylvania and the large sums available annually in New York, Massachusetts, Ohio, Indiana and other states, but through the self-sacrificing labors of the members of this Board, the county and city boards and the medical profession, and the cordial co-operation of the press, we did as much in the past with an annual appropriation of \$5,000 as many states did with five and ten times that amount. By properly utilizing what is now entrusted to us, and with the advanced legislation secured, the possibilities for practical life-saving work in every county and community are only limited by the intelligence of the local fiscal authorities and the people and the extent of their co-operation. Much of this success in the past has been because the work, except as to city health officers, has always been absolutely non-partisan and non-sectarian, making it possible to select the very best men and retain them in office indefinitely. In the same way merit and efficiency should, and will, be the only tests in establishing the new departments created by the recent enactments.

DEPARTMENT OF VITAL STATISTICS.

When the legal profession, city and county officials and people can be made to appreciate the importance to family and property interests of a systematic record of births, sickness and deaths, to say nothing of its value as the very foundation of all health work, we ought soon to know the location and cause of every kind of sickness and death

in every county and community, and be able to study the facts and give them such publicity by means of easily understood diagrams for schools and homes, through the public press and otherwise, until every section becomes educated as to its problems and dangers.

DEPARTMENT OF BACTERIOLOGY.

This department will be free to every physician, and through them to every family in Kentucky, giving daily aid and advice in the early recognition and in preventing the development and spread of typhoid fever, tuberculosis, diphtheria and other communicable diseases. Qualified physicians will be only too glad to give their patrons the benefit of this assistance, indispensable to modern practice, and an effort will be made to so educate the people that physicians will be considered derelict who fail to do so.

DEPARTMENT OF ENGINEERING AND CHEMISTRY.

This department will have as one of its first and most important duties, which will probably extend over several years, a comprehensive study of the sources of the water supply of the State, including systematic mapping of the water sheds and drainage areas, existing conditions and plans for installing or improving sewerage plants and the disposal of sewage and garbage for cities, towns and country homes. Pure water, next to pure air, is the greatest essential to health and life. The most dangerous contamination to both, in cities, towns and country homes, comes from the improper disposal of human and animal excretions. The soil and the streams, large and small, have been looked upon as the natural receptacles for these wastes from the arrival of the first settlers, and the soil of most cities and towns, and in the back yards of country homes is usually saturated with filth, and most of our streams are being rapidly converted into open sewers. Health and the soundest economy alike demand that a careful study be made of the basic causes and remedies for these conditions before the disastrous experiences of the older civilizations are reproduced here.

DIFFICULTIES TO BE ENCOUNTERED.

With the experiences of other states and countries to guide us, to equip and select competent heads and assistants for these departments and to so operate them as to get the best scientific results are largely matters of judgment and business administration. Our real difficulties will come in securing properly trained health officers for counties and cities who can give their time and energies to the practical application of this knowledge, and still more, to the creation of such a public sentiment as must be had to make effective health work possible.

SCHOOL FOR HEALTH OFFICERS.

To enable us to meet the first of these difficulties provision was made in the law for an Annual School for City and County Health Officers, with compulsory attendance and actual expenses paid by the local fiscal authorities. Our own members and officials who have excelled in certain lines of work will do much of the teaching, but it is expected that expert scientists and demonstrators from other states, and the national departments, will also be secured. In order to make this work entirely practical, my idea is that we select some small city and types of country homes near it, where we can get the cordial cooperation of the local authorities and people, make the sanitary conditions ideal as to water supply, sewerage, garbage disposal, street and home cleaning, school house construction and maintenance, bakeries, dairies, abattoirs and markets; with the appointments of the country home nearby complete as to ventilation, disposal of waste and all other matters relating to health, and use these as object lessons for the school. I have in mind a place where the authorities can be persuaded to do this for us, and attach much importance to the plan if it can be carried out.

WHAT THE HEALTH OFFICER MUST BE AND DO.

Even with the most complete training and devotion to duty, there is little real future for our work in any city or county unless its health officer is so supported that he can give his entire time to his duties and until the office is taken out of politics and the tenure made to depend entirely upon a steady improvement in sanitary conditions, as shown by the gradual decrease in the sick and death rate. A real health officer of this kind who can secure and hold the co-operation of the people in the life-saving work to which he has consecrated himself is a necessity of modern life in country and city alike. We pay thousands to maintain an elaborate system of courts and swarms of court officials without question or comment, partly because some of them are necessary and still more from custom. It is said that only one citizen out of a hundred ever has need for a court house, except as a place of record, but the reform for which we stand would put the benefactions of modern science, looking to the prevention of sickness, within the reach of every home which can be persuaded to accept it. Such a health officer should not practice medicine. It would be just as reasonable to ask the judges to support themselves and families by the practice of law while serving on the benches as to expect health officers to do their far most important and exacting work effectively and practice medicine. The voca-

tion of health officers and medical practitioners are not only incompatible but there would be no time for practice if his official work were properly done, and in many counties there would be need for assistance to carry it on. In order to make it easier to bring this about, and in the interest of both efficiency and economy, it is suggested that except as to cities of the first class a systematic effort be made to combine the city and county office, or that the offices be held by the same person. Let us no longer deceive ourselves, or permit the people to be deceived, unless we can have a trained health official in each jurisdiction so selected and supported that he can qualify himself for this specialty and make the practical prevention of sickness his life vocation, sustained health work in that jurisdiction is impossible, and if we do not have that in view and have reasonable hope of bringing it about, most of what this Board and the medical profession stands for in this regard is but an iridescent dream.

IS THIS WORTH WHILE? WILL IT PAY?

Last year, as has been done biennially for several years, a letter of inquiry was sent to each of our 3,705 physicians as to the cases treated by them in the past twelve months. By comparison it proved to be an average year, except that diphtheria was unusually prevalent. These returns indicate that we had in Kentucky during that year 13,463 cases and 6,500 deaths from tuberculosis; 18,387 cases and 1,818 deaths from typhoid fever; 10,980 cases and 2,336 deaths from diphtheria; 18,240 cases and 1,642 deaths from the bowel diseases of infancy and childhood; 19,642 cases and 840 deaths from dysentery and diarrhoea in adults; 1,800 cases and 160 deaths from scarlet fever; 30,000 cases of gonorrhoea and 16,250 cases of syphilis; a total of 129,717 cases and 13,337 deaths in one year, believed to be fairly typical of what is occurring in Kentucky every year from these eight forms of sickness. Diseases ought to be important to the people exactly in proportion as they cause sickness and deaths and cost money. Ten cases of cholera, bubonic plague, yellow fever, leprosy and other exotic pestilence would start a panic in any section, a small fraction of these deaths in a mine disaster or railroad accident would send a thrill of horror through the people, but this tragedy of sickness and deaths caused from diseases so common they are not feared, goes on every day before the eyes of every community without comment.

THE COST OF SICKNESS.

As an economic problem, the phase of sickness least thought of by most people, the importance of the above facts can hardly be overestimated. The estimate of our reporters

of \$94 for the medical care, drugs, nursing, and loss of time for each case of sickness, certainly a conservative one, places the total yearly tax upon our people for these eight diseases at \$12,191,398, nearly double the total annual revenue of the State. But the loss is far beyond this. It has become the fashion to talk about the conservation of resources, limiting the term to farms, mines, factories, forests and other things having recognized money value. Men, women and children are the greatest asset we have to conserve, and without people in such health and vigor that they can operate and enjoy these other things they have only an abstract value. Professor Fisher, the great political economist of Yale, fixes \$1,700 as the average value of lives sacrificed by preventable diseases in this country. Applying this to 13,337 lives lost to these eight diseases in Kentucky last year gives the sum of \$22,672,000, which added to the cost of caring for the sick, gives a total for the year of \$34,864,298, as much a tax upon the people as if paid into municipal, county and the State treasuries, but from which no benefits are returned as from taxes. Enormous as are these figures it is believed that they really underestimate the saving which would be entirely practicable if all the people could be induced to observe the plain laws of health in their daily lives.

CAN IT BE DONE?

So far as this generation goes an appeal to the common sense of the business world gives the greatest promise of success. The facts and the losses only need to be verified and iterated and reiterated for their significance to be recognized. The employing classes want to live, and in a way want their employes to live. If shown that it would be cheaper to improve sanitary conditions and keep their employes well than to bring in immigrants to die of the same neglect, and that they and their families are likely to sick-en and die prematurely from the same causes, it would impress them. Between the socialist, who believes the State should do everything, and the individualist, who believes it should do nothing, there is every shade of opinion. As usual the truth lies between. Under the complex conditions of both rural and urban life, when the individual has done all in his power for his own protection, there will remain a large domain where we must be protected by some general authority or perish. These things can be made plain and the public mind is in a receptive condition, especially to the spoken word and to ocular demonstrations. The times are propitious for the inauguration of the work. The press is with us to an extent not true in any other state, and will publish anything for which

there is a popular demand. The women's clubs are already leading in it. The teachers' and farmers' institutes and the labor organizations are asking for co-operation. As a means of meeting this popular demand it is suggested that the State be divided into sanitary districts with an active superintendent in each to cooperate with the health officer and profession of each county in systematic public meetings for the instruction of the people in all these matters. This is now being done in a few countries, but the movement needs to be systematized and made uniform if widespread results are to be expected. There are leading medical men in most sections so interested in this work already that it is believed that the plan could be followed out without great expense.

TEACHERS AND SCHOOLS THE HOPE OF THE FUTURE.

The present generation has had no training as to the value of health in either the home or school, and it is so difficult to change the thought and habits of a lifetime that at best we can only hope to reach and influence the more intelligent classes and improve general conditions by the methods above outlined. With proper effort the outlook is far different for the rising and future generations. We need to make a permanent alliance, offensive and defensive, with the teachers. Our report has been made a text book in one of the State Normal Schools, as we should try to have done in others and in the State University, and every teacher goes out indoctrinated as to modern methods for the prevention of disease. We should join in the effort of the teachers' and women's clubs to have the future school house a model of architecture and in the best methods of ventilation, heating, lighting, water supply, and disposal of excreta, that it may be used by the teachers as an object lesson as to the importance of these matters in the home. Teachers realize as others do not that domestic science and manual training are but the first steps to a more practical and vocational system of education, and it ought not to be difficult for us to have the plain laws of healthy moral living given such a place in the curriculum as to make them a vital part of the warp and woof of the future men and women of Kentucky. Ours is a great opportunity. I pray that we may be equal to it.

AN UNSELFISH WORK OF THE DOCTORS.

Ours is the only vocation working systematically for its own effacement. In so far as the profession succeeds in preventing tuberculosis, typhoid fever and similar diseases it diminishes the income of its members. It

often seems that this is one of the reasons why this reform is so misunderstood. It is because ours is essentially a humanitarian calling, in constant touch with sickness, suffering and death, and that it has found it far easier and safer to prevent than to try to cure this class of diseases. For the same reason, physicians do more charity than all other vocations combined, and never take out a patent on a discovery or invention. These things explain in part why the average income of the physicians in Kentucky is less than \$800, and it is only important to state the teacher as an object lesson as to the poses may not obstruct the work.

MEDICAL SCHOOLS.

The recent report of the Carnegie Foundation severely arraigns the medical schools of Louisville, and charges that this Board has failed in its duty in enforcing proper standards, both as to entrance and final requirements. The Board has even been more severely criticised by the schools for what it has done in these matters. It was familiar with the conditions which prevailed here and in other states as to medical education, and in the face of grave difficulties it, the State Medical Association and the faculties of the schools joined hands in bringing about the consolidation of the schools so as to make urgently needed reforms possible. At every step we have had the advice and approval of the Council on Medical Education of the American Medical Association, and I still believe that the liberal policy pursued, in the hope that the schools could "make good," was the wisest and best. I have asked the Board of Trustees and the Faculty of the University, and the Deans of the other schools to meet us in conference to-morrow in regard to the situation.

My annual financial report follows:

FINANCIAL STATEMENT FROM APRIL 1, 1909, TO APRIL 1, 1910.

DEBTOR.

To balance on hand April 1, 1909.....	\$2,204 45
To annual appropriation.....	5,000 00
Total	\$7,204 45

CREDITOR.

By payments as per itemized statement.....	\$4,973 67
By balance on hand April 1, 1910.....	2,230 78
Total	\$7,204 45

ITEMIZED STATEMENT.

Salary of Secretary	\$1,200 00
Sanitary Inspectors.....	1,800 00
Traveling expenses of members.....	472 00
Attorneys' fees and court costs.....	357 50
Office expenses, supplies and printing.....	354 62
Stenographers	354 25
Postage	243 74
Telegraph, telephones and express.....	191 56

Total\$4,973 67

ORIGINAL ARTICLES.

GENERAL ANESTHESIA.*

BY D. WOOLFOLK BARROW, LEXINGTON.

Much has been written about General Anesthesia. To go into details and discuss all substances used to obtain anesthesia is impossible in a paper of this kind, therefore, I will only recall to you the anesthetics in most general use and give in general what I consider the salient points for the selection of drug and the methods of giving with a few other general points. The anesthetics in most general use are ether, chloroform, nitrous oxide, with or without oxygen, ethyl chloride and stovain with strychnine. I mention this last under general anesthesia as I heard Dr. Jonesco assert that he uses it for all operative work and saw him use it in four cases. The selection of anesthetic depends on the drug itself, condition of patient, kind of operation, duration of operation, season of year, and anesthetist himself. As to the drug itself: First, let me say that it is the anesthetist's duty to use that anesthetic which is safest for the patient. The death rate from ether is about one in 16,000 cases, from chloroform, one in 3,000 cases. Any one will admit from this alone that the anesthetist should use the safer unless there is some specific contra-indication. It must be remembered that chloroform is a general depressant. It depresses the vaso-motor center, heart and respirations and decreases blood pressure. Ether stimulates the heart and respirations and vaso-motor center, raising blood pressure. In later stages it decreases respirations. Nitrous oxide raises blood pressure and depresses respiratory center. Ethyl chloride stimulates respiration and depresses circulation. Stovain acts by causing paralysis and analgesia by its effect on the nerves themselves.

Under condition of patient I include age, habits and physical condition. Now as to age: Chloroform is preferred by many in children under ten years of age because ether stimulates excessively secretion of bronchial mucus which predisposes to pneumonia and acts as a mechanical obstruction to free passage of air. It is also often preferred in adults over sixty, as they often have bronchitis or sclerotic vessels. If the patient is an alcoholic or drinks coffee or tea to great excess chloroform is dangerous and should be used only with great care. Still, large strong men sometimes have to be given chloroform since with ether sufficient relaxation for rapid operation is very difficult and at times even impossible. Ether is contra-indicated when there

is bronchitis, lung trouble, degenerated blood vessels, as atheroma or aneurysm, inflammation of kidneys or operations on mouth, throat or brain, if the anesthetist will be in the way of the surgeon.

Chloroform should never be given where there is any organic heart disease or marked shock. Nitrous oxide should not be given when the blood vessels or heart is diseased or there is any obstruction to free passage of air to the lungs. The kind of operation must be considered. In obstetrical practice chloroform is generally used although I believe that ether can often be used with advantage. Ether should not be used when actual cautery is employed. A friend of mine had a can of ether explode when the surgeon was doing a clamp and cautery operation for hemorrhoids. In operations about the face as for cleft palate ether is not liked by many operators.

The duration of operation has much to do with the selection. If operation is very short as for furunculosis or changing position of a fractured limb nitrous oxide or ethyl chloride is best.

In warm climates chloroform is much safer than in cold and since ether evaporates so rapidly and so much must necessarily be used, the former is preferred by many. This is the reason that chloroform is given so often and with better results in our Southern States.

Much has been written about ethyl chloride and nitrous oxide with or without oxygen. Statistics vary greatly as to death rate in ethyl chloride. They range from one in 1,000 to one in 20,000 cases. Most observers place it between chloroform and ether. It is advantageous in that it acts quickly (15 to 30 seconds), is pleasant to take causing no irritation nor gagging and lessens vomiting after operation. Its disadvantages are the great danger, as any one will realize, that a substance that can cause a deep anesthesia in 20 seconds is very dangerous. There is often a muscular spasm and very seldom can one obtain complete relaxation. I have only used it to begin an ether anesthetic with and find it very satisfactory, as it saves from two to five ounces of ether and much time, but every time I give it I feel somewhat anxious and am relieved after the change to ether is completed. Here let me say that I think the change is the most important part of such an anesthetic and must be made very slowly (drop by drop) and carefully so that the ether vapor will cause no gagging, reflex coughing nor choking. One must also remember to make change before the patient is very deeply anesthetized because the effect is often more marked immediately after withdrawing the ethyl chloride than while giving it. This is

*Read before Kentucky Midland Medical Society, Frankfort, Ky., July, 1910

due to the continued absorption of the drug from the alveoli of the lungs.

Nitrous oxide is, I believe, the safest of all anesthetics, the mortality rate being only one in 200,000 cases, and it taken with oxygen is practically nil. Unfortunately complete relaxation can hardly ever be obtained, so its use for abdominal operations is impracticable. In short operations or operations where some muscular rigidity or slight movement is of no moment it is the best anesthetic. I think its greatest use is the starting of ether anesthetic. If given properly one or two bags of gas will suffice to put a patient almost completely under, the ether can then gradually be turned on, and the patient in a surgical state in three to five minutes. This method I consider ideal as it is quick and it is pleasant to the patient. I believe also that it lessens post-operative vomiting and also diminishes amount of ether. The cyanosis is unpleasant to see but will always clear up as soon as a little air or ether is given. The greatest disadvantage is that a special apparatus is necessary and the gas tanks are heavy and in some localities hard to get. If oxygen is given with the nitrous oxide the danger of death is much less and the patient can be kept deeper and longer under the anesthetic. With gas alone, though, I have kept a patient under as long as twenty-five minutes. The indications for gas and oxygen are in the very old, inacute infections nephritis and markedly weakened patients and in Diabetics.

Lately an old method that has been renovated and slightly altered is spinal anesthesia. Stovain with strychnine is now most usually used. I was present when Dr. Jonesco demonstrated his method at the Post-Graduate Hospital in New York. There is no use of my reporting these cases as they have been reported already by Dr. Judd and Dr. Moorehead of New York City. I think this method should be condemned for routine work because of its uncertainty and danger. When once in the spinal canal it cannot be withdrawn. We all know the resistance of no two people is exactly the same and the substance which will cause analgesia in a very large, strong man might cause paralysis of respiration in a very small one. As an example of the great danger I will mention Case III, which was reported as above mentioned. This case was an osteoma of frontal region. The stovain strychnine was injected between last cervical and first dorsal vertebrae into the arachnoid. Before operation was begun the patient's respiration seemed to be somewhat shallow. Operation lasted only a few minutes. When patient was removed from table respiration was completely suspended. Although Dr. Jonesco attributed this to an epi-

leptic seizure (the patient had epilepsy) it was fully 15 minutes before the patient breathed spontaneously and then only after artificial respiration for whole time, together with stimulants, etc. Again I wish to emphasize that Stovain with strychnine has only a limited place as a general anesthetic. I think it well to mention here a fact that I have not seen mentioned before. In Case I at Post-Graduate Hospital which was for inguinal hernia although analgesia was complete for cutting and traction the patient exclaimed when hot water was poured into the wound.

In this place I think it well to consider the preparation of patient for anesthetic. I believe that too little thought and attention is given to this part of an anesthetic. Of course, there are many times of emergency when no preparation is possible. If there is time the preparation should begin 48 hours before operation. The urine should be examined qualitatively and quantitatively. Physical examination should include heart, blood vessels, and if indicated, blood pressure and blood examination. Only easily digested foods should be given for 24 hours preceding operation and no food for four or five hours before. Patient should be kept in best possible mood and reassured as to result of operation. If very nervous morphine might be indicated.

As to the method of administering anesthetic, I do not think that any one method should be used to the exclusion of all others. Often the anesthetist must suit his method to a particular case. When giving chloroform one must give air freely. Probably a thin wire frame as an Esmarch with a few layers of gauze is as satisfactory as any other method. Have heard that warmed chloroform with 2 per cent. oxygen in a closed cone is the safest way to give it. It is said that by this method it is as safe as ether. I myself have never seen it given this way. I believe that ether is usually given by drop method by most of our well-known anesthetists. When giving straight ether I often begin by drop until patient is thoroughly accustomed to the vapor. If patient is easy to anesthetize I continue with drops. If hard to anesthetize, becoming excited, etc., I then use a closed cone till patient is in a surgical state, then again return to drop method.

As regards a special apparatus it is cumbersome and affords no special advantage. Nitrous oxide with or without oxygen must be given by a special apparatus, of which there are many. Ethyl Chloride is said to be best given by a special apparatus which is closed. I have never given it except with an open inhaler and have found this satisfactory. Stovain with strychnine is given by injection

into spinal cord. Dr. Joneseo claims that the essential part of injection is that it must enter the arachnoid.

My paper has necessarily been long, so I wish to say only a few more words which I think the anesthetist should remember. If chloroform is selected give it straight and with plenty of air. Give it only in drops and never let the patient get more anesthetic than is absolutely necessary to keep him in a surgical state. This, of course, holds true with all anesthetics. The anesthetist should try to divert the patient's attention during the primary stage. He should talk to patient. It is well to accustom patient to come before dropping on anesthetic. Always begin slowly and keep talking to patient. Any one who has taken anesthetic knows how terrible the silence just before losing consciousness is and what dreams and fancies one has. Do not crowd at first, even though the surgeon is ready and waiting. If patient thinks he is smothering it is right to humor him and give him air, although some physicians say they nearly always have patient in surgical state in three to six minutes. I think they will more often find it ten or fifteen, else the patient chokes, becomes cyanotic, and is almost frightened to death. When in a surgical state it is the anesthetist's duty to see that the patient is placed properly on the table so he will not suffer from pressure bruises, will not lie in water and will be kept warm. He must watch the patient and not the operation. After operation he should accompany patient back to room and see that patient is well covered and protected. He should remain until patient shows some signs of regaining consciousness, which should be within five or ten minutes.

PREVENTABLE DISEASES.*

BY S. E. HAMPTON, MILTON.

There are 600,000 deaths, annually, from preventable diseases in the United States, caused by polluted water, impure food and drugs, tuberculosis, epidemics, typhoid and malarial fevers, unclean cities and bad sanitation. These deaths cause a loss to the people of this country of over a billion dollars a year. I hold that somebody is responsible for this loss, and this statement is based on facts, if we acknowledge the causes producing these deaths. I admit that ignorance, neglect, and indifference are the chief factors in preventing the elimination of the causes of these deaths. I sincerely trust that this ignorance, neglect or indifference cannot justly be laid at the door of our honorable and beloved pro-

fession. We, in common with human nature, try to lay the blame on the other fellow, and certainly it is a difficult matter to get the people at large interested in sanitation. But are we as a profession wearing absolutely clean skirts? Is it possible that our Board of Health could have done more? My conscience is not quite clear. Is yours? Gentlemen, the time has come when old and inadequate methods must be laid aside and the conservators of health must conserve. How? A national department of health with ramifications into every city, town and village in the United States is the first step, including the hospital and marine service of the army and navy. In fact, I believe the department of health should have absolute control of the water, food and drug supplies and sanitation of the army and navy, as well as of the people at large. Of course, it is a big undertaking. But who are better qualified than our profession? Of course, every disease we prevent is a decrease of our income. Are you, my brother, ignorant, neglectful and indifferent that your income may not decrease? I know you too well to believe it. No more honorable, self-sacrificing profession on earth than ours. It is reported that there are now many cases of typhoid fever in Lexington, Ky. Gentlemen, it is possible that the first case or the cause producing the first case was imported, and if so the physicians of that city may not be held responsible for it. But are they not responsible for the spread of the disease? If pure food and pure water only had been supplied to these people, the first case of the disease must have been imported. Then whose fault was it that the second case developed? Gentlemen, here is where the department of health comes in. "What is everybody's business is nobody's business." Had Lexington (I use Lexington merely to illustrate—not with the slightest unkindness) been properly guarded by competent conservators of the public health that first imported case would have been surrounded by a cordon through which the typhoid germ could not have escaped. Is it possible for the germ to hide from the scrutiny of a competent, thoroughly equipped, energetic sanitarian? Do the municipal authorities of a single city, town or village in the United States know that the water drunk or the food eaten is pure? If not, why not?

In an article by Maj. William O. Owen, a surgeon in the United States army, printed in the Journal of the American Medical Association, October 26, 1901, he stated, "that over 19,000 cases of typhoid fever in four camps—Chickamauga, Alger, Meade and Jacksonville—resulted in 1,460 deaths of the finest young men of America." These cases

*Prepared for the Eagle Valley Medical Society, August 10, 1910.

and deaths were absolutely due to "ignorance, neglect, or indifference." Gentlemen, this is strong language. Would you have me modify it? I will not do it. Facts are stubborn and these are facts. Had a thoroughly equipped force of competent sanitarians gone before the army—as did the Japanese in the war with Russia—and secured pure food and water at these camps, not a case of typhoid—unless imported—would have developed. Hence, the department of health should be separate and independent of the army and navy. As it is now, a second lieutenant can countermand any order of the marine hospital service. The department of health of all the nations of earth, should not be regarded as belligerents and should be free from capture and allowed to go unmolested wherever the sick or wounded may be found. This would be a step towards the advancement of civilization greatly to be desired.

But the state and county Boards of Health of Kentucky are not entirely exempt from criticism. Are the representatives of the three counties forming this society sure that their clientele are drinking pure water only and eating pure food only and using pure drugs only? How many of us are properly equipped for making an analysis by microscopical and chemical examination of water, food and drugs? How many of us prescribe nostrums the composition of which we know nothing? We may have the *ipse dixit* of the manufacturer, but is this enough to justify their use? I have said that a department of public health was the first step towards preventing preventable diseases. The second step is to prepare ourselves for the work. A host of sanitarians will be required. Here will be great opportunities for the young men of our profession. Personally, I am too old for this work. In fact, owing to failing sight I am offering my microscopical outfit for sale, and it is complete or was in 1886 when I paid \$300 for it. Of course, it is not worth half that now. I mention this to encourage the younger members so that they may be prepared when the time comes to take a place in the front rank. Commence that preparation now, for a department of public health is sure to come at an early day.

It is important that our clientele be educated along this line. Free lectures with stereopticon or moving picture illustrations would get the people together and impress them with the great importance of sanitation, even from a money point of view. The estimated money value of a citizen of the United States is placed at \$1,700 a year. This gives over a billion dollars annually for the death of the 600,000 from preventable diseases. Certainly this vast sum, to say nothing of the suffering

and the consequent loss of population, should be sufficient to arouse the interest of everybody, especially our profession.

THE DUHRSEN OPERATION FOR CYSTOCELE AND PROLAPSUS OF UTERUS, WITH REPORT OF CASES.*

By D. WOOLFOLK BARROW, LEXINGTON.

Before describing the operation, I believe it essential to mention in brief the normal anatomy of the pelvis and to describe the phenomena of prolapsus. To illustrate the anatomy I wish to submit a drawing. This drawing is diagrammatic and not supposed to represent the exact size of the pelvic viscera. In this drawing you will first note that the uterus lies in anteversion, its axis being almost at right angles to the axis of the vagina. Anterior and inferior to the body of the uterus and extending down almost to the internal os is the bladder. You see the bladder acts as a wedge between the uterus and symphysis. The levator ani muscle arising from the body of the os pubis and inner surface of the spine of the ischium and the pelvic fascia between the two extends down on the sides of the vagina and is inserted at the central tendinous point and into the rectum by blending with the sphincter fibers. You will see that it acts to aid in supporting the pelvic viscera, namely the uterus, bladder and rectum. The shaded marks represent the round ligaments which extend from the cornua of the uterus anteriorly to internal abdominal rings. They act as guy ropes to keep the uterus in anteversion. The cross represents the utero-sacral ligaments which are really only peritoneal reflexions and serve to hold up the lower cervical portion of the uterus. This as you see, also maintains the uterus in anteversion. The arrow represents the line of intra-abdominal pressure. This pressure, as long as the uterus is anteverted, helps to maintain uterus in normal position pushing it against the symphysis.

I will not take up the causes of prolapse except to say that it is usually due to an enlarged subinvolted uterus and stretching of ligaments from whatever cause, and a relaxed vaginal outlet. The first stage of the actual prolapse is retroversion of the uterus. This, of course, is permitted by a stretching of all the ligaments, especially the round ligaments and a perineal tear. The uterine and vaginal canals then being in the same axis, intra abdominal pressure from above, the weight of the uterus itself, and the relaxation of the floor, the prolapse increases. The bladder ly-

*Read before the Fayette Medical Society, Aug. 9, 1910

ing on the anterior surface of uterus with only a small amount of cellular tissue intervening is drawn down. The tension on cervix and congestion due to the changed position of the uterus soon causes hypertrophy and elongation of the cervix. Finally you will find the uterus lying in or even outside of the vagina, enlarged and often with an endometritis; the bladder will balloon out the superior anterior vaginal wall; the cervix will be hypertrophied, elongated and often eroded. The whole vaginal outlet will be relaxed and the vagina gaping. Dührssen says "that an operation to be of value in prolapsus must resect the hypertrophied vaginal walls, make a

border outlined. A transverse cervical incision below the bladder is made through mucous membrane down to cervical tissue. A second incision through mucous membrane down to cellular tissue just anterior to the bladder is made in the medium line from posterior to urethral meatus down to the first transverse cervical incision. The next step is to free the bladder completely. This is the most delicate part of the operation and must be done carefully and completely. You may either free the bladder from the uterus first, as in vaginal hysterectomy, or you may free it first from the vaginal mucous membrane and then from the uterus. I prefer the latter



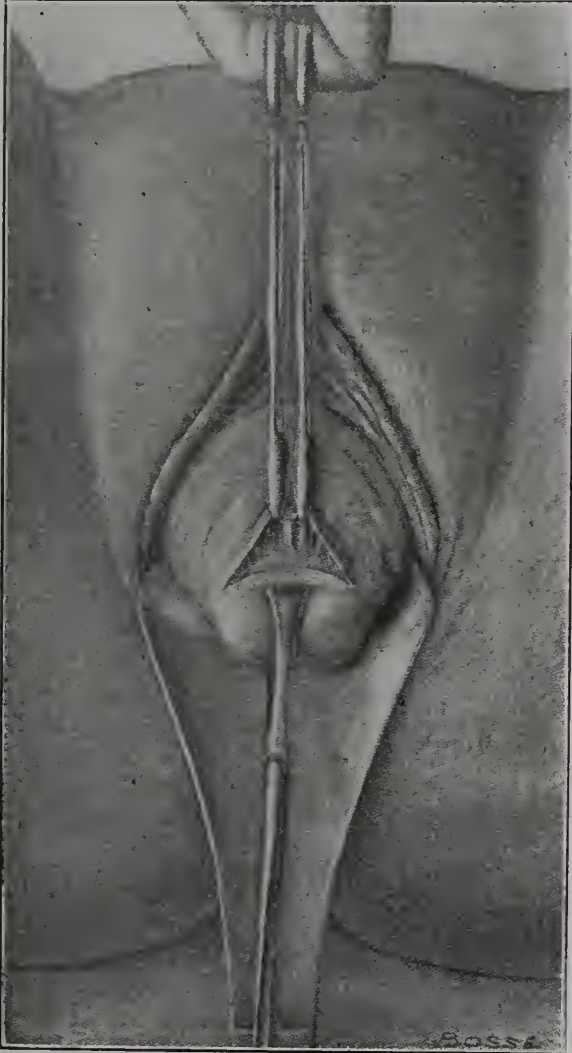
strong pelvic floor, return the uterus to a normal position and size, and replace the cystocele." You will see the operation as first done by Dührssen fulfils these requirements.

The method is in substance as follows: A short-bladed posterior vaginal retractor is introduced into the vagina. The anterior lip of cervix is grasped by a volsellum forcep and the uterus is drawn down as far as possible. If endometritis is present the cervical canal is dilated and the uterine cavity thoroughly curetted. A large sized male sound is then introduced into the bladder and the lower

as I can complete the separation more rapidly in this way. In making the separation it is best to use blunt dissection, which is safely done by a finger covered with a thin piece of gauze. It should be remembered that the bladder must be entirely freed on all sides, else when the bladder is pushed up above the uterus a pocket may be left which will produce a cystitis. I would like to call your attention to two drawings which are copied from Dr. Samuel W. Bandler's reprint on "How to Enter the Peritoneal Cavity by the Anterior Vaginal Route." The first drawing illustrates Dr. Bandler's method of separat-

ing the bladder first from the uterus and later from the vaginal mucous membrane. You see the uterus drawn forward and the transverse cervical incision. The upper cut edge of the mucous membrane is drawn forward, exposing the cervical tissue just anterior to its connection with the bladder. The next drawing illustrates the bladder after being freed from the vaginal mucous membrane and the uterus.

After separating the bladder completely an



anterior speculum is inserted to hold the bladder up above the symphysis and out of the way. This also exposes the vesico-uterine peritoneum which is grasped in long forceps and drawn forward and incised. This incision exposes the fundus uteri. The fundus is drawn out into the vagina by grasping with volsellum forceps and pulling in a zigzag manner. At the same time the fundus is

drawn forward the cervix is pushed back into the vault of the vagina. With the fundus forward it is an easy matter to examine the tubes and ovaries or even to enucleate a small fibroid. If the patient is in the child-bearing period both tubes must be sectioned. The bladder still being held up, the upper fundus of the uterus is sutured to the vaginal mucous membrane close up to the urethra though not so close as to press on it, which would cause difficult urination. Some operators suture the upper posterior surface of the uterus instead of the upper anterior surface. If the mucous membrane is very redundant a section from each side should be excised. Three or four No. 3 chromic sutures are used in bringing together the fundus uteri and vaginal mucous membrane. The transverse cervical incision may be closed in a straight median line which will lengthen the anterior wall.

If the cervix is long it should be amputated. This may be done by any method the operator likes. He must now remember the relationship of the ureters and the uterine arteries to the cervix and avoid cutting them. The next step and final one is to do a high kolpoperineorrhaphy. Here again the operator may use any method he likes, just as he makes a firm, strong perineum and a tight vagina. The levator ani fibers should be so closely brought together that when the operation is completed the anterior and posterior walls are in contact. Vagina is packed with gauze.

I would like now to relate the following histories of four patients on whom I performed this operation.

Case I was of a woman 49 years of age. Lived on second floor, having to do most of her own cooking and washing. Was a multipara and had had a complete prolapse for a good many years. Had been treated medically by pressaries, etc., without improvement. Vaginal examination showed a prolapsed uterus with large cystocele. Uterus about four inches outside of vulva. Mucous membrane was thickened and in small transverse ridges. Cervix was badly lacerated and elongated three inches, and external surface eroded from contact with inner side of thighs. The perineum was torn to within one-half an inch of the rectum. Operation with uneventful convalescence. She was up on the fifteenth day. No work or abnormal exertion for three weeks. Examination about three weeks after operation showed uterus in anteversion close up behind symphysis. Prolapse and cystocele entirely cured. Three months later patient doing her regular work and still cured. Said she felt entirely well.

Second case was in the Post-Graduate Hospital. Patient 58, and past climacterium.

Uterus prolapsed about two inches below vulva and marked cystocele. Second degree perineal tear. Elongated cervix. Operation and uneventful convalescence. Patient left the hospital on the sixteenth day with good union and feeling well.

Third case, Mrs. G., aged 48. Cervix lacerated and elongated two to three inches. Marked cystocele. Perineal tear to with three-fourths of an inch of rectum with small rectocele. Internal and external hemorrhoids. This patient had been operated on before for pyosalpinx and oophoritis. Prolapse came on within one month after operation. Usual Dührssen operation. Ligature operation for five hemorrhoids. Patient was up on the ninth day after operation and home on the eleventh. Now two months since operation, the patient is entirely well and happy, with no return of prolapse or cystocele.

Fourth case, Mrs. D., age 28. Procidentia for two and one-half years. Treated medically without result. She had symptoms of bearing down and heaviness. Physical examination, negative as regards heart and lungs. Vaginal examination showed uterus with prolapsed bladder about four inches outside vulva. Anterior mucous membrane thickened. No erosion. Cervix elongated to two and one-half to three inches. Moderate laceration. Perineum second degree tear with slight rectocele. Operation, July 9, 1910. Uterovaginal fixation by Dührssen method with high perineorrhaphy. Sections of each tube to prevent pregnancy. Examination, July 27th, 1910, anterior and posterior vaginal walls in contact. Perineum firm. No cystocele nor rectocele. No relaxation upon straining down. Uterus in anteversion close up behind symphysis and stationary. Upon standing patient says she feels strong and absolutely cured. Examination by Dr. Bradley, July 27th, who confirmed the above findings.

I realize that enough time has not elapsed to justify me in saying that these cases are absolutely cured, although I firmly believe they will never have a recurrence. I have tried to find statistics on the percentage of cures, but have not found many. Those that I have found are very impressively favorable. J. Scharpenack, of Leipsic Frauenklinik, says that of one hundred patients operated on sixty-five were not re-examined, but expressed themselves as perfectly satisfied with their results. There were five cases of slight partial return of cystocele, but all of them were cured of all important symptoms. Watkins, out of sixty-two cases, had only one case on which he had to perform a second operation. Frankenthal says he has had two to three per cent. relapse. Dr. Ward, Professor of Gynecology at Cornell, says that he has done the opera-

tion for past two years with most satisfactory results. Dr. West, Professor at Post-Graduate Hospital, New York, in a recent letter says that he has operated by this method about twenty times with no relapse. Dr. Waldo, of New York, says that he has operated twenty-two times by Dührssen method and the results have been very good. Besides the four cases above mentioned, I have assisted at about fifteen other operations of this kind and so far as I know all were cured. Excepting the nineteen cases that I have been associated in there were totally 204 cases with



relapse of less than 3 per cent. Of these 204 cases only one was operated on the second time. An operation with such a splendid percentage of cures must necessarily recommend itself. Of these cases there were no deaths. The convalescence is practically always rapid and mild. Three of my patients had a normal temperature and pulse within eighteen hours after operation. The other had temperature 101 degrees on the third day, but normal as

soon as bowels were evacuated. Case four menstruated within forty-eight hours after operation. Menstruation was normal and attended with no uncomfortable symptoms. There is practically no danger of peritonitis. Abdominal sear is avoided and sexual intercourse is not hindered.

"I would like to close my paper by quoting from two letters from Dr. Ward and Dr. West, of New York City. Dr. West says: "I consider a thorough repair of the posterior wall and perineum as one of the most essential parts of the procedure. Care should be taken to free the bladder widely from the sides of the uterus, giving abundant space through which to draw the latter down against the vagina."

Dr. Ward says: "I have done it for the past two years in a number of cases with most satisfactory results so far. The test of time is the important thing. I think that the failures that have occurred have been due to improperly selected cases, that is, in some old woman the uteri has atrophied to such an extent that it is too small, especially in its length, to make a good plug, as it were, and especially, if it is also very soft, as is sometimes the case, it will come down over the perineum doubled up, as it were, but in a proper case where the uterus has good length, breadth and firmness, and a good pelvic floor has been built up, it is certainly satisfactory in the majority of cases.

REPORT OF SOME MALIGNANT CASES.*

BY J. T. DUNN, LOUISVILLE.

In reporting these cases of malignancy, I do so with the hope that you, as general practitioners, may more vigorously, and with more assurance, guard the homes and lives of your patients by giving timely advice.

There is an unmistakable wave sweeping across the professional world to-day which will save thousands of lives and forestall much of the pain incident to malignant disease. This wave of public sentiment, which the profession has created and will continue to agitate as long as backed up by actual results in the hands of the surgeon, will increase in magnitude until no longer will ignorance on the part of the patient be an excuse for withholding her suspected condition from her family physician and friends, and no longer will the family physician, through fear of startling his patient, withhold from her facts which she is entitled to know. I go farther, and declare that his inability to recognize, or his negligence to disclose, the facts necessary to cause prompt action to be taken,

thus saving a life, will lay him liable to the charge of malpractice. In my twenty years of practice of surgery and the treatment of malignant disease with X-rays, I have seen many sufferers from malignant disease who had passed from an operative to a non-operative class. It is a common experience for the surgeon to examine a breast or other tumor, and advise the patient to return to her home and use opiates, or advise an exploratory incision which, in all probability, will be met by immediate closure; or, in another class, advise and do a radical operation, only to have a recurrence follow. Few have been the cases referred to the surgeon in time to effect a cure as compared with the total number affected with the disease. The question is, who is to blame? Where does the fault lie? It is, I think, directly traceable to three individuals, and a vicious circle. First, the patient who has not been trained, who did not notice the tumor or the bloody discharge; or, if detected, did not know of its serious nature, or became alarmed and, feeling that her doom was sealed, chose to bear her burden alone as long as possible. Operation was out of the question, as Mrs. Blank was operated on for cancer and died; so did Mr. Blank. Her teaching has been that all who have cancer die, surgery or no surgery. Second, the family physician, who seldom sees a case early for the above reasons, and, seeing the nervous state of his patient, seeks to cheer her by minimizing the danger and passing some light opinion, usually the following: "I don't think it will amount to anything"; or, "We will keep a close watch on it and if it gives you any trouble we will see what can be done with it"; or, "Don't bother it until it bothers you." These are some of the statements made to me by the patient as coming from her home physician. The third party is the surgeon, upon whom devolves the great responsibility of properly removing every vestige of the malignant disease in every instance, or his case is not cured. A recurrence may appear and the patient die, thus confirming the argument used by such cases; they are more convinced than ever that all who undergo an operation, die, and some will even tell you that life is longer and more bearable without the operation. Thus the vicious circle is formed.

As Oschner has well stated, "Those cases of malignancy operated upon early, recover, go to their homes, keep the matter a secret, and their neighbors and friends never hear of the cure; but every patient who is operated upon and dies is reported far and wide, and the impression becomes general that all cases of cancer die."

As stated in the early part of my report,

*Read before the Henry County Medical Society, April, 1910

patients with tumors hesitate and refuse operation, because they can see no hope. Their argument lies in the vicious circle. The point of attack in this vicious circle by the army of practitioners and surgeons must be at the point of least resistance; namely, early operation. This is to be brought about by, first, enthusing yourself, and, second, injecting your enthusiasm into your patient by two facts; (1) that all malignant diseases are, at first, strictly local, and (2) if efficiently dealt with while in that state, are absolutely curable.

There is now no longer any question about the permanency of the cure in all early breast amputations, all early uterine extirpations, and so forth and so on. These patients practically all get well and stay well. The patients who come late to the surgeon are the only ones we have any trouble with. They make lots of trauma necessary during operation, they make tedious recoveries, they make early recurrences, they make bad impressions on their friends similarly diseased, and, finally, they make a bad reputation for the surgeon, who did all he could to save her life. This last feature alone has caused many possibly operable cases to be turned away, as the surgeon did not care to operate on a doubtful case, send her home to die and make a bad impression in that neighborhood for him, and a bad impression as to the curability of the disease.

Some surgeons have endeavored to press home the very spirit intended to be conveyed by this paper, by telling his patient that "You have come too late for surgery to do you any good; there are ninety-nine chances against you and I refuse to give you the one chance that is for you."

Dr. Charles Mayo gave me some figures which will aid you in advising your patients with tumors what to do; namely, that "80 per cent. of all breast tumors are malignant, and, of the remaining 20 per cent., 50 per cent. become malignant; also, that 1 woman in every 8 and 1 man in every 17 dies of carcinoma after 35 years. One-half the cancers of the body affect the alimentary tract, and 15 per cent. of breast cancers are transmitted to the other breast." This is appalling, and should arouse you gentlemen who first see these cases, to deal severely with them. Let them not go with some slight attention and drift on to certain death.

I wish to quote the following from Crile (*Ohio State Medical Journal*, October, 1905):

STATISTICAL ANALYSIS.

Age.—In your cases (total, 91), the mean age is 49; the oldest, 71; the youngest, 24; sixty-four per cent. occur between 40 and

60. The mean age is not older than cancer in certain other locations. Many occurred before the menopause; and one during lactation at 28. The disease, then, is apparently not especially influenced by the senile involution of the gland. Two of our cases emphasized the importance of the possibility of cancer before thirty. Seemingly, there is greater malignancy in the younger subjects.

Social State.—Fourteen per cent. had never been married. It is interesting to note that, according to the Federal census, 8% of the female population are unmarried at 45 years of age; and that of the women dying of cancer, 39% are unmarried.

Lactation.—Thirty-five per cent. had not borne children. It is obvious, then, that in our series lactation is not a contributing factor to cancer of the breast. On the other hand, it would seem that this function confers a certain degree of immunity against cancer.

Lactation History.—In but 11% there was a distinct history of lactation complications of importance.

Age of Youngest Child.—The mean age of the youngest child was 16 years.

Nipple.—In 35% there was retraction of the nipple (76 observations). In 17% there was a discharge from the nipple (79 observations).

Hereditary History.—In 78 cases, upon careful inquiry on this point, it was found that 37% gave a definite hereditary history of malignant tumors.

Primary Symptom.—In 94% the disease was first discovered as a tumor, 67% of which were painless, and 33% painful. In 6% the first symptom was purely subjective—pain, tension, stinging, etc. The disease, then, is generally discovered as a tumor.

Known Duration of Tumor.—The mean known duration of the tumor was 11 months; the greatest 24 years; the least 2 days.

Location of the Tumor.—The right breast was involved in 54%; the left in 46%. Dividing the breast into a central portion and four quadrants, we find the frequency of location in the following sequence: upper outer, central, upper inner, lower outer, lower inner. Of the latter three was but a single instance. In the upper hemisphere the tumor appeared precisely four times as frequently as in the lower.

Pathological Variety:

Scirrhus	61
Adeno-Carcinoma	9
Medullary	7
Alveolar	3
Cancer Cyst	2
Carcinoma Simplex	2
Perithelioma	1

Sarcoma	1
Epithelioma	1
Cancer	4

Clinical Groups.—For the purpose of clinical study, the cases have been tabulated in three groups: The favorable, which includes those in which the breast tissue only was involved; unfavorable, including those in which there was local or regional extension, but not clearly without operative chance; and palliative, which includes those done for relief of intolerable local conditions without hope of ultimate cure. Of the 91 cases, 87 were classified as favorable, unfavorable, or palliative. Of this number, 53 were favorable, 25 unfavorable, and 9 palliative. This classification was made on the clinical evidence prior to the operation, entirely independent of the later pathological findings.

Operative Risk.—In this series there was no immediate operative mortality.

Remote Results.—In determining the remote results, extreme difficulties have been encountered, although we have made it a rule to personally examine, or make a written inquiry, once in three months. Up to the present time there have been but two instances of local recurrence of the disease. Deaths from the disease were due to the metastases in the thorax, in the liver, the kidneys, the long bones, peritoneal cavity, pelvic organs, vertebral column, the stomach, and opposite axilla. In several instances metastasis occurred after the three-year period.

Of the palliative group, none are living; of the unfavorable group, 14% are living; of the favorable group, 80% are living without evidence of the disease.

Surgical Technique.—The surgical treatment is based upon three fundamental propositions, (1) cancer of the breast in its beginning is a purely local disease, and as such is curable; (2) from the surgical standpoint it may be considered as extending only through the lymphatic system—emboli through the channels of the blood vessels is a matter which is at present beyond the concern of practical surgery; (3) the growth and spread of the disease may be increased by mechanical means. The technique is essentially that described by Halstead.

* * * * *

Discussion.—It seems to me it is extremely unfortunate that in the current literature of surgery, so much prominence has been given in the diagnosis of cancer of the breast to such symptoms as *cachexia*, *emaciation*, *ulceration*, *glandular metastasis*, etc. When this stage of the disease is reached the case is no longer surgical, and the diagnosis is of no importance to the patient. These symp-

toms should be distinctly known as the terminal symptoms of the disease. *A surgical diagnosis should and can be made without any of these terminal symptoms.* The most important diagnostic evidence is palpation. After one has carefully palpated a number of cases of cancer of the breast, one has gained a clinical picture of the disease so accurate that a mistake is rarely ever made. It is impossible to describe accurately and fully the qualities appreciated by palpation. All the other symptoms are of lesser importance, because they came later in the disease. The history of the case, however, is a matter of great importance. We may say that a solitary, non-inflammatory tumor appearing in the breast in the cancer period of life should be surgically regarded. An indurated, invading, solid, somewhat irregular mass when gently pressed against the breast, with or without discharge from the nipple, with or without absorption of fat over the tumor, with or without dimpling, with or without pain, with or without hereditary history, with or without cachexia, with or without ulceration, with or without metastasis, should be surgically treated—either explored or excised—given a surgical diagnosis and an exploration made.

In the series of fifty-four favorable cases, that is to say, cases in which the disease was limited to the breast tissue, there were but six that were regarded as being proper subjects for an exploratory incision. In the remainder the diagnosis was considered so certain that the radical operation was at once made. What should constitute a surgical exploration of such a tumor? I have abandoned the idea of incising the tumor. I have considered it wiser to make such a local incision of the tumor that should be quite safe were it carcinoma, then, if possible, have a definite diagnosis made by a competent pathologist with a freezing microtome, requiring usually from six to ten minutes.

Growing cysts of the breast should be considered suspicious if, on removal, their fluid contents are chocolate-colored or bloody, diagnosis of malignancy is quite certain.

For the fifty-four cases in the favorable group in my series I have to thank my friends among the general profession for their early diagnosis and for their courage to act promptly upon their convictions. On the part of many physicians I find that there is a conviction now that diagnosis of cancer of the breast by such symptoms as cachexia, ulceration and metastasis is on the same faulty basis as the diagnosis of appendicitis by such symptoms as general peritonitis, cold clammy perspiration, rapid respiration, high temperature and impending death. The difference

between the 80% of the three-year cures in the favorable group and the 14% of the three-year cures in the unfavorable group, effectively tells us where the great responsibility lies in the surgical results in cancer of the breast.

REPORT OF CASES.

The first three cases serve to illustrate two points. First, the patient who desires to keep her condition a secret for fear of surgical operation will be advised; second, the patient who has had the advice of her family physician, who makes a bad diagnosis or treats the case lightly.

Case I.—Mrs. N., age 60, came in July, 1909, with a very large carcinoma of the breast, with a large ulcerating mass in the axilla, extending up under the clavicle and involving the subclavian glands. This patient had detected this condition many months ago, but, because she believed all cases of cancer eventually died, chose not to be operated upon until finally compelled to do so to be relieved of the pain and the ulcerating mass. I gave her practically no hope but believed, with her, that life would be more bearable, not only to herself but to her relatives, by removing the breast and ulcerating glands.

The breast and involved area were removed, the wound closed and healed by first intention. The patient made a rapid convalescence, returned to her home, but soon developed a metastatic condition in various portions of the body, and died in February, 1910, having lived eight months with no open abrasion.

Case II.—Miss H., age 44; carcinoma of the left breast, which was detected early by the patient but, for reasons given in Case I., declined operation until compelled to do so. Operation was done at a time when it was impossible to remove every fragment of diseased tissue, and it was not long until recurrence developed, the patient dying in March, 1910.

Case III.—Mrs. B., age 74, came to me with a well-developed growth, involving the right alveola and bucal region; lymphatic glands enlarged; duration five months. The superficial enlargement of the glands and alveola dated back six weeks; recently very painful. This patient stated to me that her family physician had been treating the enlargement on the alveola, near the wisdom tooth, for some weeks for a gum-boil. Diagnosis made of carcinoma, and confirmed by microscopical examination. Involvement was so extensive and the patient's condition was such that no operative procedure was advised. The pain was relieved by X-ray exposures, but the growth continued to enlarge, the patient re-

turning to her home and died a few months later.

The two following cases serve to illustrate what can be done by surgeons when these patients come early.

Case IV.—Miss A., age 32, small tumor in left breast. Operation advised and accepted. Halstead operation performed and the breast removed. Axillary glands and vessels were carefully dissected and the wound closed. The operation was done in 1905, and the patient to-day is well.

Case V.—Mrs. K., age 34; had an eroded and lacerated cervix. A section was removed and reported to be sarcoma. Total extirpation was advised and accepted. The operation was done in March, 1906, by doing a complete vaginal hysterectomy. The patient made a short convalescence and has remained well until the present day.

Many more cases could be reported illustrating the principal point in my paper, that early operation is absolutely essential to save the lives of these otherwise most unfortunate cases.

COUNTY SOCIETY REPORT

Barren.—The Barren County Medical Society met at Glasgow, July 12. In the absence of both the President and Secretary, J. M. Taylor was made President and A. T. Botts, Secretary.

S. J. Smock reported a case of syphilis diagnosed by the initial chancre and in which he had used protosidine thrice daily for about one month with gratifying results.

R. S. Plumlee advised delaying the specific treatment until the eruption appears.

The case of traumatic meningitis reported by **P. S. Plumlee** at the last meeting is out again, after a very severe attack.

E. L. Palmore reported a case of transverse presentation which during her pregnancy had been diagnosed as a tumor of the epigastrium, owing to the high and peculiar position occupied by the fundus uteri.

A. E. Ferguson reported a case of transverse presentation, with hand and arm prolapsed, delivery being long and difficult, owing to the tetanic condition of the uterus.

A. E. Ferguson also reported a case of acephalus, showing 5-6 views in different positions.

After a thorough discussion of the cases reported, the following program was arranged for the next meeting: Papers: **S. J. Smock**, "Trachoma;" **E. L. Palmore**, "Malaria."

Adjourned to meet August 9.

T. F. MILLER, Secretary.

Barren.—The Barren County Medical Society met at Glasgow August 9, with E. L. Palmore, President pro tem.

Among our number was our aged and venerable brother, J. W. Wood, of Hiseville. He has been in active work for forty-two years. Though once an active and valuable member of this society, he is at present only an honorary one. While his shoulders are stooped, his step slow and his head whitened with the advance of years, he still has a keen interest in medical work and talks fluently on the latest topics of medical research. Being at the present time very much interested in summer diarrhoea he called for a discussion of Cholera Infantum and Dysentery, which was very interestingly participated in by these present.

T. F. Miller reported a case of cystocele in a woman 33 years of age and now in the seventh month of her fourth pregnancy. The condition being noticed soon after her last confinement, though no visible tear of the perineum is present, soon after rising the mass begins to appear and in a few hours presents external, the vulvar opening the size of a goose egg, urination being frequent and painful. But on lying down the condition soon returns to normal and all discomfort ceases.

A. W. McCandless suggests the use of an inflated rubber bag as a support.

J. W. Wood advises the production of premature labor at the eighth month to save the bladder at the time of confinement.

J. C. McCreary suggests the application of a T bandage. However, the consensus of opinion was that as long as rest alleviated the condition to let other interference alone.

P. S. Plumlee reported that our brother, H. P. Honakee, who is confined at his home with typhoid, is making good progress toward recovery.

At the afternoon session Vice-President J. C. McCreary presided.

S. J. Smock read a very interesting paper on "Trachoma," and motion carried to have the Secretary send it to the *Journal* for publication.

R. H. Porter opened the discussion by stating that he always referred his cases to some specialist, a he did not think they came within the realm of the general practitioner.

A. W. McCandless was of the same opinion as Dr. Porter.

E. L. Palmore had cured a few cases with applications of 40 per cent. solution of Protargol on alternate days, and daily application of a 10-20 per cent. solution.

S. J. Smock stated in closing that while Trachoma usually yielded readily to appropriate treatment one could never promise a permanent cure. He presented a case of chronic trachoma complicated by a nevus of the upper palpebrae conjunction.

The paper on "Malaria," by **E. L. Palmore**,

was deferred until next meeting. Discussion by **R. H. Porter**.

Another paper for next meeting is "Treatment of Typhoid," **R. S. Plumlee**; discussion, **A. T. Botts**.

T. F. MILLER, Secretary.

Calloway.—The Calloway County Medical Society held its regular monthly meeting Wednesday, August 10th, and it was a meeting that makes a Secretary's heart glad.

Every member on program was present, and was prepared—and the attendance on the part of the membership was almost perfect.

W. W. Richmond, of Clinton (our Councilor), and **P. H. Stewart**, of Paducah, had promised to be our guests, but Doctor Stewart came, but was called back to Paducah immediately and Dr. Richmond missed his train, but we had an excellent meeting anyway. The doctors of Calloway can do that thing most any time and not half try. The only trouble is they don't try as often as they should. The President, **Dr. E. D. Covington**, of Hardin, called the meeting to order promptly at 1:30 p. m., and Dr. H. B. Winters, of Shilo, was elected to membership, bringing our membership up to nineteen.

P. A. Hart read a paper, "Preventing the Spread of Typhoid Fever."

B. B. Keys, "Feeding of Infants."

S. D. Yongue, "Indications and Contra-Indications for the Use of Tuberculin."

J. V. Stark, "Proper Methods of Treating Abortion."

Those present were: **G. H. Covington**, Wadesboro; **E. D. Covington**, Hardin; **W. F. Grubles**, Freeland; **C. N. Crawford**, Linn Grove; **G. G. Miller**, Cold Water; **C. O. Gingles**, Kirksey; **J. V. Stark**, Kirksey; **H. B. Winters**, Shilo; **P. A. Hart**, Murray; **B. B. Keys**, Murray; **S. D. Yongue**, Murray.

W. H. GRAVES, Secretary.

Franklin.—Franklin County Medical Society met in regular session in office of Drs. Williams and Mastin those present being **W. Wilson**, **G. H. Heelman**, **E. H. Budd**, **N. M. Garrett**, **Flora W. Mastin** and **U. V. Williams**.

There was no regular program and no essayist. A general discussion of the present epidemic of typhoid fever in Frankfort and the surrounding territory, it was suggested that the attention of County and City Boards of Health be urged to take such action as may be necessary in regard to the matter. Adjourned, subject to call of President for further action.

U. V. WILLIAMS, Secretary.

Lincoln.—**J. G. Carpenter**, of Stanford, addressed a large and enthusiastic audience at Waynesburg Sunday afternoon at 7:30 P. M. Over 200 were present to hear this splendid lecturer on the Great White Plague.

Tony Acton, of Eubank, gave an interesting talk on the same subject.

A. K. Caldwell in his usual affluent style spoke on the great need of the National Bureau of Public Health.

Marshall.—The Marshall County Medical Society met in Benton today in the office of Stilley & Jones, with the following members present: W. T. Little, L. E. Jones, B. T. Hall, F. M. Travis, T. C. Coleman, C. E. Clayton, V. A. Stilley, E. G. Thomas, A. J. Bean.

W. T. Little read a paper on "Summer Diarrhoea of Children," which was a good, practical paper and well discussed by all members present.

C. E. Clayton read a paper on "Typhoid Fever," which was an up-to-date paper in every respect and was discussed by everyone present.

This was the best meeting we have had in some time.

The Southwest Kentucky meeting, the A. M. A., some rainy days, ball games, and some negligence have fallen on our meeting days this summer in quick succession, but we are trying by the grace of our Councilor, one Vice-President and a little push to make good.

A. J. BEAN, Secretary.

Owen.—The Owen County Medical Society met in its rooms in Owenton at 10 a. m. Thursday, August 4, 1910, with the Vice-President, A. E. Threlkel, in the chair. Roll call showed J. W. Botts, M. Bell, J. H. Chrisman, W. E. Foster, J. A. Estes, K. S. McBee, A. E. Threlkel and G. Purdy present.

J. A. Estes reported a case of continued fever for eight or ten days with premature delivery. Discussed by society.

M. Bell reported a case of premature delivery, with exceptionally high fever, which immediately disappeared after the removal of dead foetus. Also discussed by society.

A. E. Threlkel read a paper on "Hay Fever." He said some define the disease as a miasmatic condition, some as a neurosis, some say there are sensitive areas in the passages connected with center in the medulla causing the disease when irritated, others think the disease appears when the vital forces are low, irrespective of any local irritation. But he believes the disease is a condition of the mucosa of the air passages, dependent upon an abnormal nerve supply, productive of decreased resistive force; and that an acute exacerbation of this condition occurs from the irritation of certain poisons and bacteria. He believes the diseased condition exists the year round, but that the symptoms are only manifest to certain periods. It is on the increase. Some day, he thinks, a specific bacteria will be found the cause of this condition. Recommends iodide of arsenic and terpin hydrate as prophylactic irrigation with saline solution and spraying with peroxide hydrogen for ten days before the attack

is good. Best results in treatment from adrenalin. Be careful in the use of cocaine and morphine. Believes when an effective remedy is found it will be along the line of an antitoxin.

The discussion was taken up by **K. S. McBee** and followed by all the members, who complimented the paper.

George Purdy read a paper on "Uterine Displacements and Remedial Measures." He gave an outline of the different kinds of displacements and the treatment for the same.

W. E. Foster and others discussed the paper.

An announcement concerning the meeting of the Eagle Valley Medical Society was made by **J. W. Botts**, who is Secretary of that society. The next meeting is on the 10th inst., and to be held at Sanders. Prospects seem flattering for a good meeting.

Program for the next meeting of Owen County Society is as follows: "Differential Diagnosis in Gastric Diseases," paper, **J. H. Chrisman**; discussion, **W. B. Salin**. "Pericarditis," paper, **M. S. Veal**; discussion, **Morris Bell**. "Cholera Infantum," paper, **R. H. Alexander**; discussion, **J. W. Taylor**.

Society adjourned to meet at 10 a. m., Thursday, September 1, 1910.

GEORGE PURDY, Secretary.

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: John E. Wilson, J. Ed. Wilson, Clark McKenney, Woolery, M. A. Yelton, Blackerby Bickett. None of the officers of the society being present except the Secretary nor any of the essayists for this day, the meeting was not called to order. We spent the time in reporting clinical cases. **Dr. M. A. Yelton** brought a case before the society for examination and diagnosis, which proved to be a very interesting case. We then adjourned.

W. A. McKENNEY, Secretary.

Taylor.—Resolutions adopted by the Taylor County Medical Society at a called meeting held August 27, 1910:

Whereas, by dispensation of the all-wise Ruler of heaven and earth, Mrs. Hattie Buchanan, wife of our esteemed brother practitioner and member of this society, Dr. J. B. Buchanan, was taken from him and her earthly home on the 25th day of August, 1910; therefore, be it resolved—

First, that we, collectively and individually, extend to Dr. Buchanan and his family our sincere sympathy in the ordeal through which they have passed in seeing a loved one suffer during the many weeks of pain endured by the stricken wife and mother, and also in the hour of their sad bereavement when her earthly existence ended.

Second, that this resolution be made a part of

the records of this society and that copies of same be sent to the bereaved family and furnished The News-Journal, The Taylor County Enquirer and **Kentucky State Medical Journal**.

E. L. GOWDY,

H. G. SANDERS,

J. L. ATKINSON,

Committee.

Trimble.—The day of the regular meeting of Trimble County Medical Society was changed from the 25th to the 20th, because this being the day of the anniversary of Dr. Contri's fifth graduation the society thought they would celebrate the day. Members were all present except W. L. Canvert.

After reading of the minutes the society suspended the room and the committee was appointed to wait on the invited guests from Louisville, and now, my dear **Journal**, this is the proceedings:

On the 20th inst. there met at Milton the greatest gathering of medical men that ever assembled in Trimble County or this part of the State. The occasion for this meeting was to celebrate the fiftieth anniversary of the graduation of Dr. L. G. Contri from the University of Pisa, the second oldest university in the world.

The Doctor was in his happiest mood, and so were his guests, for his good wife had prepared a feast that was fit for the gods, and Mr. John Schomoro, an expert mixologist from Louisville, prepared a drink that was superior to the nectar that Jupiter sipped. It would have made old Jupiter himself wish that John had been his mixologist.

At the banquet **Dr. C. P. Harwood** was toastmaster, and he proved equal to the task, displaying not only a bright mind, but ready wit. Several speeches were made and responded to in well-chosen words that carried the conviction to the listeners that some of the brightest minds of the world were assembled there. "After 'a feast of reason and a flow of soul' lasting for three hours the guests retired from the hall, not satiated with the good things, but in order to digest and assimilate both mentally and physically the good things of which at present they could hold no more.

In the evening they, with many more, returned to the hall and listened to words of wisdom, counsel, advice and reproof fall from the lips of men who, in ages past, would almost, if not, have deified for the knowledge they possessed. It was fortunate, indeed, for Trimble County that her citizens had the benefit of these speeches, for they were listened to attentively and we believe will do much good for Trimble County, for good seed planted in good soil will yield much fruit in due season.

The talk by **Dr. B. Zimmerman**, of Louisville, on "Sanitation" was especially valuable and

will be appreciated the more as the days go by, for good advice, like great men, is not appreciated to the fullest extent until some time passes and the people learn its true value.

These speeches showed that these doctors were not practicing for dollars alone, but for humanity as well; that they are soldiers fighting the enemies of the human race, the enemies that would impose on us, pain, sickness and death; that their mission is not to do all the fighting, but to teach the nurses how to fight these common enemies, and chief among their weapon is "Sanitation;" that eternal vigilance is not only the price of liberty, but the price of health.

Another thing we observed while at this meeting was the great respect these eminent M. D.'s held for Dr. Contri's professional opinion. We now see that he is bright and shines as the evening star in the medical firmament.

In this host of medical men we may have missed some, but we noticed the following doctors present: A. O. Pfingst, Irvin Abel, B. Zimmerman and C. P. Coogle, of Louisville; S. M. Ford, R. W. Cochran, F. M. Harper, Geo. Denny, N. A. Kremer, Cook and Evan Totten, of Madison, Ind.; S. E. Hampton, of Carroll County; S. K. Fisher, F. W. Hancock, J. W. McMahan, W. A. Wright, C. C. Fix, J. H. Calvert and C. P. Harwood; of Trimble County.

The closing address was delivered by **Dr. Contri**, and in the address he proved himself not only master in the art of healing but in language as well, especially the use of some invectives showed him to be no respecter of persons; that he was an enemy not only to deadly microbes, but to ignorance as well; that he detested, execrated and despised the public official, who through ignorance and prejudice fails or refuses to do his duty, to the detriment of humanity.

This closed the meeting, and all agreed that "it was good to be there." Those who left the night before left very reluctantly. Some remained over night. Those who left that night, before leaving

"Wreathed the bowl with the flowers of soul,

The brightest wits could find us,

Then took a flight toward heaven that night,

And left dull earth behind us."

T. W. McMAHAN, President.

Scott.—The regular monthly meeting of the Scott County Medical Society was called to order by the President, those being present were: Drs. Heath, Johnson, Coons, Crutchfield, Porter, Allphine and Barlow.

S. T. Rawlins, by virtue of being one of this society's first organizers and having retired after an honorable career in the practice of medicine, he was unanimously elected as a honorary member for life.

Papers of **Foreman** and **Porter** were continued until the next regular meeting.

The Secretary was ordered to read the resolutions adopted by this society before the Scott County Anti-Tuberculosis Society at their next meeting, commending their efficient work for the prevention of this dread disease.

E. C. BARLOW, Secretary.

Whitley.—The Whitley County Medical Society met at Williamburg Friday, August 5, at 1 p. m., with the following doctors present: E. S. Moss, L. Sproule, S. S. Sullivan, W. H. Parker, H. M. Robbins, F. Wadkins, L. O. Smith, D—— Smith, H. G. Petrie, G. M. Richmond, Ben Tye, P. E. Giannini, Clive Moss and B. E. Giannini.

The meeting was called to order at 1 p. m. and the following doctors paid their dues: E. S. Moss, Clive Moss, G. M. Richmond, L. O. Smith, W. H. Parker, L. L. Sullivan, L. Sproule, and H. G. Petrie.

An election of officers was then held. H. G. Petrie, of Red Ash, was elected President, to succeed J. H. Parker; Clive Moss, of Williamburg, was elected Vice-President; G. E. Giannini, of Coalmont, was re-elected Secretary by acclamation; L. O. Smith, of Williamburg, was elected Delegate to the Kentucky State Medical Association, and B. E. Giannini, Delegate Alternate.

Several good talks were made for good of the society. **E. S. Moss** and **B. E. Giannini** then made talks on the subject of "Pellagra," which was freely discussed by all. This was one of the best meetings ever held in Whitley County and one of the best attendances.

The Whitley County Medical Society decided to meet with her neighbor counties in a tri-county medical meeting, the date to be decided later by the Secretaries of the other counties.

The next meeting will be in Corbin.

Whitley County Medical Society is growing, and soon expects to be one of the largest, as all of the doctors are coming out and doing their part.

B. E. GIANNINI, Secretary.

Wolfe.—The Wolfe County Medical Society held their meeting in Dr. Carroll's office in Campton, August 1, 1910, Dr. Carroll President Pro Tem, and B. D. Cox, Secretary.

A case of tumor in an unmarried lady was reported by Drs. Nickel and Carroll. The discussion was freely participated in by all present. A program was arranged for the next meeting at Campton, September 5, 1910. Motion carried to adjourn to meet at Campton the first Monday in September, 1910.

Our April meeting was held at Hazle Green, when I could not attend; it was not reported to the State Medical Society.

The Society held their May meeting at Lee City, Wolfe County, on May 7, 1910, which the Secretary pro tem did not report, and I was unable to be present.

Our June and July meetings was without a quorum to transact business, so they were not reported.

B. D. COX, Secretary.

Knott.—At a meeting of the Knott County Medical Society with Dr. Richard W. Duke, President in chair, the following business was done.

Owen Pigman read a very interesting paper on Spina Bifida.

M. F. Kelley and **J. W. Duke** discussed the subject.

A lengthy talk was made by several members relative to the work to be done by the new County Board of Health recently appointed. The Board seemed to be much determined to do good and much good may be expected in the way of sanitation.

Richard W. Duke was elected delegate to represent the Society in the House of Delegates in September at Lexington.

M. F. KELLEY, Secretary.

Warren.—The regular meeting of the Warren County Medical Society was held in Bowling Green at the Doctors' Club room, Wednesday, May 11, 1910, with the following doctors present: J. H. Souther, Blackburn, South, London, McCormack, Huddle, Rau, Rutherford, Helm, Drake, Martin, Hall, Stone, Cartwright, Rodgers.

G. E. Huddle reported a case of swelling of the knee over a period of six months. X-ray plates were negative. The treatment consisted of aspiration and injection of iodoform emulsion.

B. S. Rutherford read a paper on Tuberculosis. This paper was prepared for our public meeting, which will be held in Smith's Grove.

Wm. Drake and **T. W. Stone** discussed the paper.

A. T. McCormack reported three cases of septic bronchitis due to influenza bacillus.

L. H. SOUTH, Secretary.

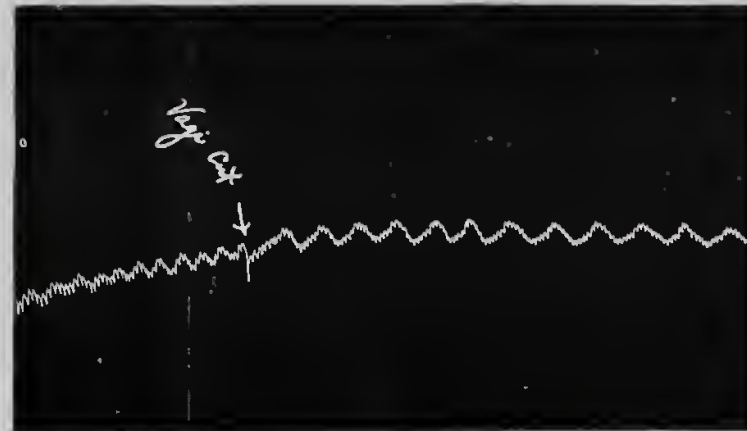
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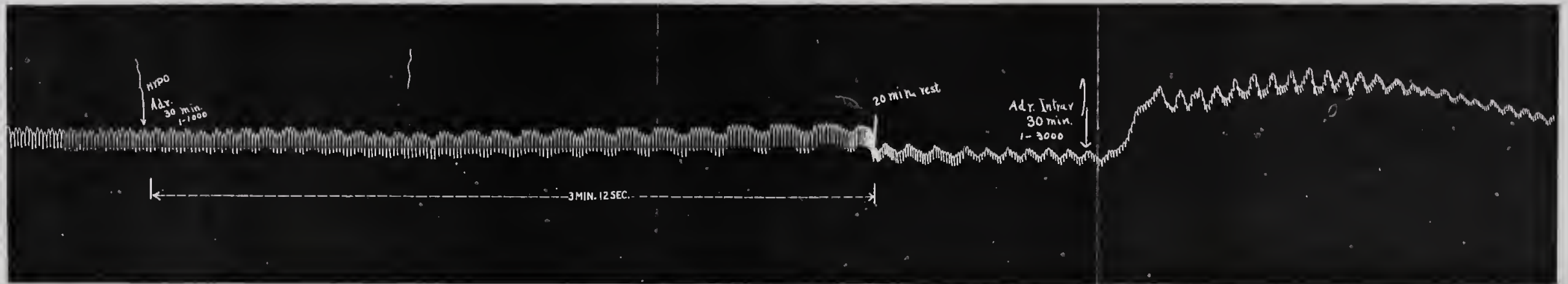
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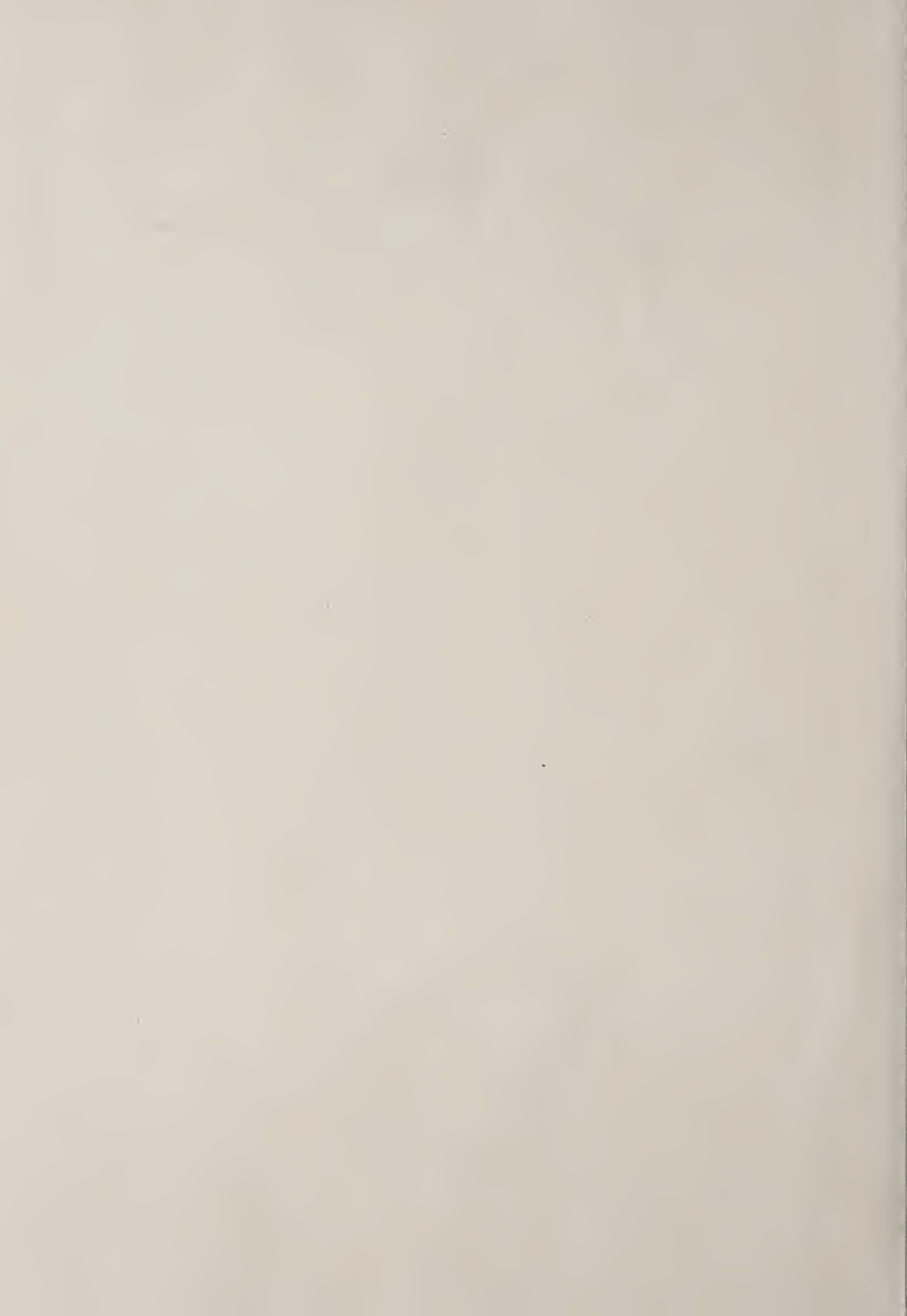
ILLUSTRATING DR. SIMPSON'S ARTICLE ON "PHARMACOLOGICAL CONSIDERATION OF SUPRA-RENAL GLAND; A REFERENCE TO ITS POTENTIALITIES FOR HARM AND SOME COMMON MISCONCEPTION AS TO ITS UTILITY"



CUT No. 1—Adrenalin chloride sol. 1 c. c. 1-5000 Intraven. Injection. Vagi cut just before maximum pressure obtained. Note acceleration and maintenance of pressure.—ORIGINAL.



CUT No. 2.—Showing effect of intramuscular injection on dog. A slower heart action and increased tension:—After the effects disappeared an intravenous injection was given followed by characteristic kymographic tracing. Attention is called to a comparison of effects from these two methods of administration.—ORIGINAL.



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ORIGINAL ARTICLES

PHARMACOLOGICAL CONSIDERATION OF SUPRA-RENAL GLAND; A REF- ERENCE TO ITS POTENTIALI- TIES FOR HARM AND SOME COMMON MISCONCEP- TION AS TO ITS UTILITY.

(EXPERIMENTAL DEMONSTRATIONS.)

BY VIRGIL E. SIMPSON, LOUISVILLE.

PHARMACOLOGICAL ACTION.

Circulatory System: The most striking influences that supra-renal gland, as a drug, presents clinically, are those manifested on the circulatory system. To Oliver and Schafer,¹ in 1894, and Cybulski, about the same time, is due our first knowledge that suprarenal gland possessed blood-pressure-raising properties and slowed heart action. The slowed heart action is due to two factors:-

(1) *Stimulation of the Vagus Center.* Remove the suprarenal gland and there ensues a fall of blood pressure and a feeble, rapid heart action; intravenous injections of suprarenal invariably cause a marked increase in blood pressure and slows the heart; paralyze the vagus center with atropin, or cut the nerves and then suprarenal administration is followed by an acceleration of heart action, though the pressure is still maintained by the vascular action of the drug. (See Cut No. 1).

This implicates the vagus center. It is an interesting physiological question as to just how the vagi act as inhibitors of the heart Cyon² stated that the sympathetic nerves

quickened the heart by a vaso-dilator action, while Erichson³, Hill⁴, Porter⁵, and many others, believe that the inhibitory nerve of the heart acts by a vaso-constrictor influence.

(2) *Contraction of the Blood Vessels.* Gerhard⁶ believes this to be the only cause of the inhibitory effect; but, since section of the vagi or paralysis by atropin prevents the drug from causing an inhibitory action, the vascular pressure must be considered only as a contributing factor. The heart is slowed because of the resistance which increased blood pressure, caused by the suprarenal, offers.

In addition to slowing heart action suprarenal also increases its dynamic power. What causes the heart to contract is as interesting as how the extrinsic nerves quicken or slow the rate of contractions. Over fifty years ago Brown-Sequard asserted that blood carried by the inferior vena cava contained some substance which contributed to the heart's dynamism. Porter⁶ states that "the nerve cells in the heart are not essential to its contractions," and that the true cause of contraction is "in some agency acting on the contractile substance * * * * brought to it by the blood." Sajons⁷ concludes that this substance is "suprarenal secretion and an oxidizing substance." The vagi from the medulla, and the sympathetic from a limited area of the upper part of the cord represent the extrinsic motor supply of the heart. Stricker, 30 years ago, showed that extirpation of the cervical and dorsal parts of the cord resulted in arrested heart action; that destruction of the medulla merely enhanced the certainty of death. Now, if suprarenal acted on no other part of the heart mechanism than these two centers, then its use would not counteract extirpation, but suprarenal

does cause the heart to resume its beats, notwithstanding total removal of the cord and section of the vagi. Biedl₈ succeeded, in his experiments, in raising pressure from 9 to 116 m.m. Ott verified this, bringing pressure, in his experiments, from 24 to 144 m. m., the interval between injection and highest pressure ranging from 15 to 30 seconds.

Now, since the internal secretion of the suprarenal gland exercises a direct stimulating action on the cardiac muscle as a physiological process, and since it is a physiological agency and, therefore, must not be confounded with toxic agents perverting normal conditions, then the administration of the substance as a drug involves an augmentation of these normal manifestations. Hence, we conclude that it augments the dynamic power of the heart by its direct influence on the cardiac muscle fibers, being carried to it by the coronary vessels. The heart contracts more forcibly under suprarenal, thus forcing the blood more completely out of the coronary vessels, which, together with the constrictor influence of the drug directly on these vessels, causes it to become paler in color as well as smaller in size. This latter effect can be very readily demonstrated by the oncometer on an exposed heart. While the systole is strengthened, the diastole is rendered less complete. (Cushing₁₀.)

The Blood Vessels are powerfully contracted by suprarenal extract. How is this accomplished? Oliver and Schafer demonstrated that a vessel will contract after all the nerves are cut, forcing the conclusion that the action is on the vascular musculature. They further showed that this action occurs equally as well after section of the cord. These observations were confirmed by Cyon₂. Meltzer showed that cutting the sympathetic does not prevent the contraction of vessels in the ears of rabbits, but rather results in a more marked contraction than those of the opposite ear. Gottlieb dilated the vessels of the isolated kidneys with chloral and succeeded in contracting them with suprarenal extract.

Cushing₁₀ states that contraction of the vessels is due almost entirely to action on the muscles, but in part to the increased efficiency of cardiac contractions. Sajous₂ is emphatic in his assertion that suprarenal extract causes vascular contraction by stimulating the muscular elements directly, and not by influencing the vasomotor system.

Whatever effect, then, we may conclude, that is produced on the vasomotor centers by suprarenal extract, is that shared in common with all living cells of increased metabolic activity. The arteries are endowed with a coat of muscle fibres which present greater

thickness and relatively greater mechanical power as the capillaries are approached; therefore, there is relatively greater constriction of the smaller vessels. This was first demonstrated by Oliver and Schafer₁, the smaller vessels showing a steeper rise than the larger ones when taking kymographic tracings. In consequence of the constriction of blood vessels, together with increased force of heart contraction, there is an enormous increase in tension. When the blood pressure reaches its maximum the pulse usually becomes faster. The increase in tension is always of short duration, being but little influenced by the size of the dose.

Absence of Uniformity in Action. The blood pressure influence is not manifested uniformly on all vessels. Cerebral vessels are but little, if at all, affected. In fact, they are more often dilated. The retinal vessels are quite uniformly dilated. De Schweinitz states that they are not affected when suprarenal is instilled into the conjunctival sac. Dilatation of the cerebral vessels is not the result of a specific action, but is merely a compensatory effect; the vessels in some parts of the body are powerfully contracted while those of the brain are not so much, if at all, influenced; hence, more blood is diverted to to this region. That the pulmonary vessels are as little influenced as those of the cerebrum is stated by all authorities. Even direct application in the lung structure causes but little pallor. Wiggers₁₂ found that, if suprarenal extract be dissolved in a solution of the same viscosity as that with which the lung is perfused, it causes some contraction of the vessels. If, however, it be dissolved in a fluid of less viscosity than the perfusion fluid, the viscosity change is sufficient to overcome any suprarenal action unless the dose is very large. Hence, the clinical use of suprarenal to lessen hemorrhage in these structures can scarcely be efficacious, and might even be deemed erroneous.

Concerning its influence on bleeding vessels elsewhere, Wiggers₁₂ draws these conclusions after a careful study experimentally:

(a) Large doses of adrenalin (0.1 mg.) cause a short preliminary increase in hemorrhage, followed quickly by a decided decrease or cessation of bleeding.

(b) Small doses cause little or no preliminary increase, but shorten the course, and are, therefore, therapeutically desirable.

(c) The method of introduction determines the effects on pressure and hemorrhage. *No results* are obtained from subcutaneous administration; by continuous intravenous injections of weak solutions, a slight elevation of pressure can be maintained and hemorrhage checked most satisfactorily; a

moderate effect can be had from intramuscular injections.

Thompson¹⁴ called attention to the action of suprarenal extract in assisting the outlining of new growths. Infiltrations and new growths, owing to the low grade of tissue, are supplied with blood vessels of feeble contractile power; the healthy tissue shrinks and blanches, leaving the new growth tissue distended and even turgid.

The vessels of the muscles are scarcely changed in calibre, and those of the skin are affected to a much less extent than those of the abdominal organs. In fact, the abdominal vessels are affected to a greater degree than in any other region. Those of the stomach and intestines, particularly, are powerfully contracted, and this proves no mean factor in the general rise in pressure. The uterine and vaginal vessels are contracted, while those of the bladder are much less so. The coronary arteries are dilated and the renal vessels contracted, acting, in these two latter respects, exactly opposite to pituitary. The veins have thinner walls and possess less important muscular tissue; hence, suprarenal extract contracts them less than it does the arteries, though this, to a degree, is compensated by their greater lumen.

Locally, the effect on the unbroken skin is practically *nil*. On denuded skin surfaces and mucous membrane the effect is most striking. In from 2 to 30 seconds the parts are rendered practically bloodless, and this persists a time varying from 15 to 30 minutes, depending upon local conditions. This local ischaemia establishes a partial anesthetic condition and, when used in conjunction with local anesthetics, aids their action. No paralysis results from repeated use, though a secondary dilatation may exceed the original condition of the vessels.

McFarlane¹⁵ says, with regard to postoperative hemorrhage, that the law of action and reaction holds good here, and that operations done under the ischaemia of suprarenal gland, are prone to postoperative bleeding.

Fate. The question of the fate of this evanescent agent is one of interest. Jackson¹⁶ does not believe that suprarenal persists in the blood after blood pressure has subsided. He thinks that the increased tension produced by injecting blood from a dog treated by the agent into a second dog, is due to some other cause, and that it disappears from the blood in one minute. Ehrman has, however, recovered more than enough suprarenal remaining in the blood after the pressure effects had subsided, to induce a rise in another. Further evidence that it is not destroyed in the system is found in the fact, first demonstrated by Cybulski, that the

urine of animals poisoned by suprarenal extract will cause increased pressure after such effects have subsided in the original animal. Again, a leg of an animal can be ligated so as to cut off the circulation; then inject the drug, wait until its pressure effects have disappeared, and, on removal of the ligature, the vessels of the occluded limb will contract vigorously.

It would seem that the liver has some effect on the suprarenal extract. Langlois found that ligating the hepatic vein prolonged the constrictor effect, and if it be injected directly into the portal vein, but small influence was observed upon the general circulation.

MUSCLES.

As in the case of the blood vessels, the action of suprarenal gland on the muscles is not uniform. The greater part of the musculature of the body is stimulated (that is, the unstriated type) and undergoes spasmodic contraction. Destruction of the gland, or annihilation of its function, causes weakness of even the striated muscles. The pupil is dilated both on local and internal application; separation of the lids and some protrusion of the ball results, which is exactly the same as when the cervical sympathetic nerve is stimulated. The muscles of the uterus, vagina, vas deferens, and seminal vesicles, are vigorously stimulated, which action aids production of the anaemic condition incident to the direct influence of the drug on the blood vessels. Neu¹⁷ relates extensive experimental and clinical research on the influence of suprarenal on the uterus. He confirms Kurdinowski's experiments with isolated uteri, kept alive with Locke's fluid and injected with suprarenal preparation. The weakest solution, 1-20,000,000, affected the uterus more energetically than ergot or other drugs regarded as specific uterine stimulants. He obtained powerful uterine stimulation under all conditions and in all stages of development. The action is dual, being both muscular and vaso-constrictor; the latter was most pronounced but the former lasted longer. He performed Caesarean section without loss of blood after such injection. The dose is too small to cause any general reaction of any consequence. The injection is made through the abdominal wall into the muscular structures of the uterus. When used in the cervix or by uterine instillations, inconstant results were obtained. He repeatedly warns against injection into a vein.

Kurdinowski¹⁸ found, as a result of 60 pharmacological experiments, that suprarenal acts more energetically, even in the most diluted solutions, than the remedies usually supposed to exert a specific influence

on the uterus. He found that it caused a violent reaction, powerfully strengthening uterine contractions, gave them a tetanic character, and increased the excitability of the organ. The activity of the musculature of the intestines and stomach is lessened. This is also true of the bladder. Thus, it will be observed that it acts differently on different forms of involuntary muscles. In this connection, it will be remembered that stimulation of the sympathetic nerves has identical results; for example, stimulation of the splanchnic causes contraction of blood vessels but relaxes the muscles.

INFLUENCE OF SUPRARENAL GLAND ON ABSORPTION AND TRANSUDATION.

Meltzer and Auer have done some very interesting work along this line. They showed that suprarenal extract delayed the tetanus of strychnin on an average of 50 minutes; that intravenous injections would either long delay or completely overcome the effects of a fatal dose of strychnin; that neither hypodermic nor intraperitoneal use gave such brilliant and constant results; that if both be given by the mouth, tetanus was delayed by the inhibition of peristalsis, since the strychnin is not absorbed from the rabbit's stomach. They also showed that fluorescein injected into the control rabbit caused a yellow color of the mucous membrane in 10 minutes, while 1 c. c. of adrenalin injected into the ear vein three minutes prior to the injection of fluorescein in another rabbit, delayed its appearance 88 minutes.

In our experiments we have not been able to delay the appearance of tetanus in frogs more than 25 minutes. We have here two frogs of about equal weight. We are injecting the same amount of suprarenal extract into the lymph-sac of each, but adding 15 minims of 1-5000 adrenalin chloride solution to the injection in the second frog, and we will now time the appearance of the convulsions, thus verifying our statements as well as emphasizing them.*

Naturally the question arises: *Why does the previous administration of suprarenal extract delay the appearance and lessen the intensity of the effects of a drug subsequently injected?*

It might be due (1) to chemical interaction; (2) biological neutralization; (3) impairment of mechanism of absorption.

The first cannot be true, as is evidenced by the fact that the same effect can be secured when the two drugs are introduced into different parts of the body. The second will not hold good since the appearance of color from such an innocuous drug as fluorescein is retarded by the previous use of suprarenal

extract. Therefore, the retardation of effects must be due to interference with the mechanism of absorption.

Since absorption is delayed by suprarenal extract, what structures are affected? Wesley demonstrated the retarding effect of suprarenal extract on the process of transudation by injecting a solution into the subconjunctival tissue of one eye of a rabbit, and in 15 minutes puncturing the anterior chambers of both eyes. In the normal eye the anterior chamber filled again in 15 minutes, while in the suprarenal eye 30 minutes were required. The aqueous fluid was also poorer in proteids. Meltzer and Auer, as the result of their experiments, concluded that "suprarenal retards absorption from the tissues into the blood and from the blood into the tissues, and that the capillaries are the structures so affected." This they believe to be due to an increase in the tonicity of the contractile protoplasm of the endothelial structures of the capillaries and lymphatics; that this increased tonicity narrows the lumen of the pores and decreases the facility for interchange between blood and tissue fluid; in other words, that it decreases the vital permeability of the capillary wall; hence, retardation of absorption and transudation.

Resume—(1) Intravenous injection of suprarenal invariably retards the processes of transudation and absorption; (2) Subcutaneous use also retards these processes; the effect, however, is neither constant nor strong. It increases the tonicity of protoplasm surrounding pores of endothelial capillaries, reducing facilities for interchange between blood and tissue fluid...

June ²¹ has done considerable experimental work determining the efficiency of suprarenal extract in preventing the absorption of cyanide of potash, strychnin, aconite, belladonna, etc., from the stomach. With all these agents good results were obtained, the most satisfactory being with strychnin, but even with as rapid a drug as cyanide of potash, the delayed results of absorption were obtained.

DANGERS.

Caussade demonstrated that repeated injections caused hypertrophy of the suprarenal gland, exactly as do other toxic bodies. It is probable that the gland destroys its own secretion when in excessive amount. Boynet and Abelous showed that animals are more susceptible to various poisons after extirpation of these glands. Langlois and Charrin showed that hypertrophy of the gland occurred after repeated injections of toxins in sub-lethal doses, and that they became physiologically more active. Wilcox ²² summarizes the effects of large doses on reparative pro-

cesses thus:—"The vitality of protoplasm is weakened; hence, its development is hindered; a marked effect on cell division, hence interference with proliferation of cells in granulation tissue, thus impeding the healing process; sloughing has been observed clinically; the movements of ciliated epithelium are inhibited or destroyed." These effects have been recorded repeatedly in experimental research work.

Hurter and Richards found degeneration of the Islands of Langerhans after suprarenal poisoning. Depression of the respiratory center is a constant effect in large doses and death is not infrequent at the lung. Landis has called attention repeatedly to the dangers of sloughing after subcutaneous injection, which he thinks is due to diminished local resistance.

Maragliano²³, in experimenting on dogs and rabbits having a moderately virulent staphylococcal infection, found that suprarenal greatly increases the virulence of the germs, and concludes that injection into any but sound tissue is dangerous.

Wood cautions against repeated use, which he designates as "dangerous," and states that he believes he has seen patients killed by pulmonary oedema due to the confidence placed in it as a cardiac stimulant.

As to the possibility of *Arteriosclerosis* following the use of suprarenal extract, we have no information so far as man is concerned, but an abundance of evidence on the experimental side. Josue, in 1903, first described the alterations in arterial vessels after the injection of suprarenal extract. His results were confirmed by Rzentkowski, Erb., Jona Gouget, Pic, Bonamour and many others. These changes consist of a necrosis of the tunica media, followed by a matting together of the elastic fibres which later break up into fragments. Inflammatory reaction follows, with infiltration with lymphocytes and often giant cells. Calcification, with thickening of the intima, or even aneurysmal bulgings ensue subsequently. Since, however, these effects did not always follow the use of suprarenal, Loeb and Githens²⁴ undertook some experiments looking to the clearing up of certain unknown factors. (1) Does previous thyroidectomy prevent the action of suprarenal on blood vessels? (2) Are these changes hastened or increased by kidney lesions existing or reduced? (3) Does pregnancy predispose toward these changes, or is its course interfered with by such administration? (4) What is of relative importance in the production of these changes? (a) the number of injections; (b) quantity used; (c) time consumed between commencing injections and death of animal? (5) What,

histologically, is the condition produced? (6) To what are these effects on the blood vessels due? Summarized, their findings are as follows:

(1) Previous thyroidectomy does not hinder action of suprarenal on blood vessels. (2) The changes are not affected by experimental lesions of the kidney. (3) Pregnancy does not predispose to these vascular changes; the drug does not disturb the normal course of pregnancy and the vessels of the young are not involved. (4) The number of injections and the amount used at each injection are of less importance than the time covered by the experiment. (5) Inflammatory processes were never found; no round celled infiltration, no new formation of blood vessels nor connective tissue; changes in the intima and adventitia may be slight, even in advanced cases; in the media the greatest and most constant changes are found—loss of the nuclei of muscle cells and impregnation of lime salts. (6) Suprarenal does not cause these effects, at least not alone, but it has the power of raising blood pressure.

Waterman²⁵ in his experiments, showed that arteriosclerosis induced in animals after the injection of suprarenal, closely resembled ordinary arteriosclerosis in man. He is inclined to ascribe the effects to a direct toxic action on the walls of the vessels. Suprarenal extract undoubtedly has some toxic action independent of its vaso-constrictor influence. Miller²⁶, however, in an attempt to throw some light on this subject, found that, when given with amyl nitrite, for the pressor effects were much diminished, and in such animals as he examined, no macro—nor microscopic evidence of degeneration of the vessels could be found.

Bradford²⁷ also concludes, from a review of the literature, that arterial lesions caused by suprarenal are more associated with increased pressure than due to a toxic condition. Erb regards the atheroma as being effected through the vaso-vasorum. If it were toxic it should affect more tender vessels than the aorta, to which the lesions are largely confined. Ewart says that there is at least one known factor—sustained blood pressure.

It is doubtful, probably, that a few doses have serious effects upon the blood vessels, but surely in the light of our present knowledge, its continued use is unwise, even dangerous.

ADMINISTRATION.

Local—The rapidity and effectiveness of suprarenal gland on the blood vessels are exhibited in a most striking manner when applied directly to mucous surfaces, in strength even as weak as 1—10,000. All mucous membranes become profoundly ischaemic and

capillary hemorrhage is promptly checked. This action can be secured time after time by repeated applications, as the vessels do not become either paralyzed or habituated by such repetitions. The law of action and reaction obtains here, it is true, the vessels dilating to or beyond their original calibre as the effects of the drug subside. There is some smarting on first contact, which can be lessened by using normal saline solution as a solvent. A degree of anesthesia ensues, which is entirely due to the deprivation of blood. If used with such local anesthetics as cocaine, a two-fold result is secured—an adjuvant to their local effects and lessening, or entirely preventing their absorption, thus increasing their own local action, and minimizing or obviating their systemic effects. Its action on the unbroken skin surface is almost or quite a negligible one.

Per Orum—No, or at best, an indifferent, systematization can be secured when used in this way. Its constricting influence on the vascular supply of the gastric mucosa can be established, however, when thus administered, since its action is here confined and becomes strictly a local influence, as was first suggested by Grunbaum²⁸. If the stomach be emptied of its contents, preferably by lavage, and the drug introduced, hemorrhage may then be controlled. In the intestine, however, it is impossible for the conditions necessary to secure local action to obtain, even if the drug could be carried through the stomach without disintegration. Therefore, the delay incident to waiting for the effects in intestinal hemorrhage is unscientific and may be fatal.

Hypodermic—Almost complete bloodlessness of the part can be induced by hypodermic use. This causes no change in the general blood pressure, nor markedly appreciable effects in other parts of the body. This is most noticeable when used in concentrated form, as absorption of the drug itself is prevented as shown under heading "Effects on Absorption and Transudation." While it arrests hemorrhage when introduced directly into the bladder or rectum or uterus, a much more decided influence on the latter organ ensues from hypodermic injection directly into this muscular structure, according to Oliver and Schafer²⁹. Since contraction of the musculature ensues, which aids the constrictor effect on the vascular supply, practically no effects are had on these organs if the injection be made into other parts of the body in concentrated form. If used in greater dilution some action on the general vascular system is had. An intramuscular injection is more effective than the ordinary hypodermic method. The result thus obtained

is so small compared with intravenous use that it cannot be too strongly emphasized. (See Cut No. 2.) The mental picture we have of suprarenal gland action on the circulatory system is based on its intravenous use, while, because of ease in administration, hypodermic introduction is generally resorted to, the disparity in effect is lost sight of and disappointment, and perhaps disaster, ensue.

Intravenous—It is only by this method that the full pharmacological action can be obtained and when so used its effects are almost instantaneous in appearance, uniform in influence, and powerful in results. This method will now be demonstrated to you on a dog, and a kymographic tracing made. (See Cut No. 2.) The statement made under the heading "Local Administration," concerning the repetition of dose, is equally applicable here. In our experiments we have repeatedly allowed the effects of the first dose to disappear and introduce successive doses, with the same striking increase in tension and lessening of heart beats per minute. This method is more difficult of use and more dangerous in its potentialities, but it is the only way to secure the full pharmacological action of the drug. In the vaso-motor paralysis of chloroform, in collapse from toxins and poisons, in shock from various causes, in short, in cases *in extremis*, the rapid, powerful action of suprarenal gland is eminently desirable and may save life.

*I am indebted to Drs. MacCracken and Bolling, and to Mr. Mowrer for their valuable assistance in carrying out these demonstrations.—V. E. S.

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DISCUSSION.

W. H. McCracken: I feel that we owe an apology for the kind of work we have done here to-night. These experiments absolutely cannot be properly made outside of the laboratory, and I want to take this occasion to invite you to visit our laboratory and see the work under the best auspices. There are a great many doctors in Louisville, but we see very few of them in the laboratory, and I wish to invite you to come up to my own particular laboratory at the school and interest yourselves in it, and do some work yourself. It is always accessible to you and I will be glad to supply animals and facilities for any investigations you may wish to carry out.

Wm. H. Wathen: We are greatly indebted to Dr. Simpson and Dr. MacCracken for their beautiful demonstration of the action of adrenalin upon a living animal. While these tracings may not be the equal of what Dr. McCracken can obtain at the laboratory, they are certainly very beautiful, and illustrate very nicely what Dr. Simpson has so concisely said. We see here the rapidity of the action of the adrenalin and also the rapidity of the decline. Over here we see an erratic action for which probably no explanation can be made. It would seem, therefore, that the action is so short as to be of practically no value in cases of shock or for the purpose of controlling hemorrhage. We can see, however, that adrenalin may do a great deal of harm, and we need to investigate its action much farther before we can indorse it into our therapeutics, medicinal or surgical. I have used it frequently, hypodermatically, but I must say that I have never seen any beneficial effects from it in my work in arousing patients from shock.

Hugh N. Leavell: I think the society is to be congratulated upon the presentation of this subject, and upon these beautiful demonstrations that have been made here to-night. I think if we could have more demonstrations of this kind there would be fewer therapeutic nihilists among

the members of our society and more men with the idea that there is something in drug medication.

Practically, adrenalin has accomplished a great deal. I think we can truthfully say that, on account of its blood-pressure-raising properties, it has an unusually rapid and marked effect in the relief of certain pulmonary conditions, notably asthma. I have used it so many times and with such marked, and often prolonged, effect, that I feel confident it has a place in the treatment of these pulmonary conditions. I will say, however, in passing, that where there is a great deal of secretion from the mucous surfaces of the thoracic cavity, it will not have any effect, but where the trouble is nervous in character, characterized by low arterial tension, without secretion in the thoracic cavity, adrenalin will afford prompt relief. I use a 1,1000 solution, hypodermatically. I have administered it for asthmatic conditions in my office, in patients' homes and in the hospital, and in every case where there was a lack of secretion in the thoracic cavity, it has had a good effect.

As to the value of adrenalin for the relief of hemorrhage from the intestinal tract, there can be absolutely no doubt of it. I stand here as a living example of the efficacy of adrenalin for relief of hemorrhage in typhoid fever; I believe it saved my life, and that I have been able to save the lives of other typhoid fever patients by this means. However, once hemorrhage has begun, the value of local administration of adrenalin is practically nil. Applied to mucous surfaces, it does have a tendency to blanch those surfaces, but once hemorrhage has started, no effect will be obtained until it has been controlled. It has a constricting effect locally upon the blood vessels, and I think it has a vaso-motor constrictor effect. That it does not influence the amount of blood passing through the brain has been well brought out by Dr. Simpson, and this fact can be demonstrated by experimentation.

In some instances, I have seen untoward effects follow the administration of adrenalin in asthmatic conditions. It sometimes produces an excessively nervous condition; the patient is tremulous, becomes very excited and, if allowed to remain in a sitting posture, will often faint; but this can be prevented by being careful to see that there are no marked moist rales in the thoracic cavity, and that the tension is low, before administering adrenalin, and that the patient assumes a recumbent position after administration.

I think there is a large field for adrenalin as a means of preventing shock. If adrenalin chloride is administered at the beginning of vaso-motor paresis, shock will often be prevented. However, where shock has ensued, and its effects are manifested upon the central nervous system, whether from manipulation within the

abdominal cavity or what-not, I think adrenalin will very often, like strychnia, hasten a fatal termination; but if introduced at the proper time, at the beginning of vaso-motor paresis, there is no doubt that it has a tendency to prevent shock.

B. F. Zimmerman: This is a very fascinating subject, but one in which we are still in the experimental stage and about which our knowledge is largely theoretical.

It is generally believed, as Dr. Simpson stated, that the action of adrenalin upon the blood vessels is a direct one, and not through the vaso-motor system, yet the cerebral blood vessels are unaffected by the administration, and this is also true of the pulmonary vessels, in which, as we know, the tension is very much lower than in the systemic circulation. These are points that occur to me as indicating that adrenalin has, in some measure at least, a vaso-motor as well as a direct effect upon the blood vessels.

There is no question that adrenalin will increase the heart's contraction, but the statement that it is the element that is responsible for the dynamic action of the heart can hardly be sustained inasmuch as it has been demonstrated that the heart can be kept contracting for some time after being isolated from the circulation. It is now generally believed that the heart itself has the power of secreting a substance which is capable of exciting contractility.

In regard to the use of adrenalin other than locally to control hemorrhage, I do not believe it is rational unless it be in intestinal hemorrhage, and even there, certainly not by its action upon the blood vessels, but possibly by its action, if any at all, upon peristalsis of the intestines. Certainly, any substance that will increase blood pressure as we have seen demonstrated here, is not conducive to the formation of clots in those blood vessels, which is Nature's method of controlling hemorrhage. If it has any effect in controlling hemorrhage in typhoid fever, it must, in my opinion, come from quieting peristalsis in the intestine and not by its direct action upon the blood vessels.

The action of adrenalin upon the pancreas and its relation to glycosuria, and possibly to diabetes, is another very interesting phase of this subject. It has been demonstrated that the administration of adrenalin intravenously will not only check the supposed internal secretion of the pancreas, but will also check the external secretion. Pemberton has demonstrated that, even upon the administration of substances supposed to physiologically stimulate the action of the pancreas, simultaneously with the administration of adrenal, the action of the pancreatic cells was inhibited, and that where suprarenal and pituitary extracts have un-

dergone a certain amount of deterioration, the blood pressure raising power is still present, but their action toward inhibiting the pancreatic secretion is lost. It has been suggested that this is probably due to the fact that adrenalin is a reducing substance, and that it acts by extracting the oxygen from the pancreatic cells, thereby interfering with their function. Carbon dioxide, magnesium sulphate, and other substances known to extract oxygen, will do the same thing and give rise to glycosuria.

Carl Weidner: I have only a few words to say. We know very little about this subject and have much to learn. I will only give a few points from my own experience.

I have used adrenalin hypodermatically, applied to the mucous membranes, and given it internally, and I have never seen any good effects follow its internal administration. I did not hear Dr. Simpson say anything about administration by the mouth. However, I agree with Dr. Leavell that its application to the nasal mucous membrane, by spray or otherwise, in asthma and some forms of hay fever is followed by good results.

I have used adrenalin in typhoid fever, but have made up my mind not to use it again. The effect is too transient, and not only that, but an undesirable effect is obtained in many cases.

Dr. Zimmerman spoke of the relation of adrenalin to the production of glycosuria. I think, however, that the effect here can be explained by its astringent effect upon the blood vessels, causing late absorption of the pancreatic secretion from the Isles of Langerhans, and a diminished quantity, caused by constriction of the vessels in the pancreas itself and the peritoneal covering.

Again, I believe it has been stated that it is possible to use adrenalin in surgery in extreme cases. A mixture of saline solution with a small percentage of adrenalin will have a temporary effect, leaving the tone of the vessels sufficient to carry the patient past the danger line.

This is a very interesting subject, and the fact that such good and such bad effects may be produced by the same drug should make us very careful in the use of it.

A. Sargeant: I am sure that we have all enjoyed this demonstration very much indeed. Soon after adrenalin was introduced to the profession, I had the pleasure of seeing its action demonstrated in the Parke-Davis Laboratory in Detroit, in 1903. Shortly after that I was called in consultation in a case of post-partum hemorrhage some distance away, and I provided myself with a solution of adrenalin. I found that there had been very severe laceration of the cervix, and upon removing all the clots, I found that the hemorrhage was not from the uterus proper, but from the lacerations in the cervix.

I cleansed the cervix thoroughly and packed it with cotton saturated with adrenalin solution, and then moderately packed the vagina so as to hold the adrenalin in contact. The tampon was removed the next day and she had no further hemorrhage.

A CONSIDERATION OF OCCIPITO-POSTERIOR PRESENTATIONS.

BY EDWARD SPEIDEL, LOUISVILLE.

A brief review of some of the anatomical features of the female pelvis, will serve for a better understanding of the points to be discussed in this paper.

In considering this part of obstetrics, the writer still prefers the simple measurements as given in King's *Obstetrics*. Everyone knows that such measurements at best are approximate and that the pelvis of different women are just as unlike and subject to ordinary variations as their features. Accordingly for a proper understanding of the subject it is not necessary to deal with small fractions of an inch, as is still the custom in many of our text books. King's diameters furthermore are estimated from the pelvis of the living woman and practically bring before us the actual condition as it confronts us at the time of labor, whereas most other diameters are those of the dried pelvis and the practitioner is supposed to remember when such diameters are encroached upon by muscular structures in the living female.

According to King, the diameters at the superior strait, are 4 inches for the antero posterior, 4 for the transverse, 4 1-2 to 5 for the right and left oblique. This makes it apparent to everyone at once, that the right and left oblique diameters of the pelvis are the largest ones and the ones through which the fetus enters the pelvis in delivery. When it is remembered besides, that the rectum, descending into the pelvis to the left of the promontory of the sacrum, encroaches slightly by its presence upon the left oblique diameter, and in the pregnant woman in the later months of gestation, is filled with fecal matter, diminishing that diameter even more, then we readily understand that the fetus descends in the right oblique diameter, reckoned from the right sacroiliac synchondrosis to the left acetabulum, in the great majority of instances, and this is readily borne out by the statistics from all of our text books. Naegele in fact states that in 100 vertex presentations, 70 are L. O. A. and 30 R. O. P., the other positions being extremely rare.

Under the circumstances then, if the occiput is directed forward in the right oblique diameter then we have an L. O. A., if to-

wards the sacroiliac synchondrosis, an R. O. P.

Upon examining the pelvis further, we find just below the superior strait, the widest part of the pelvic cavity, an area practically circular in outline and averaging 5 inches in every direction. It is in this area, that anterior rotation begins in the majority of vertex presentations. Always in originally anterior presentations and frequently in posterior cases. In fact in this respect the writer classifies posterior cases into those which rotate early in this plane of pelvic expansion above the spine of the ischium and in consequence are often diagnosed as R. O. A. when the physician sees the case, and persistent posterior cases those that only rotate late in the delivery below the spine of the ischium, when the occiput reaches the perineum.

An accurate and early diagnosis is necessary in these cases so that suitable methods may be effectively used when nature fails to deliver properly. Slow dilatation and delay in the presence of good pains, should at once call attention to the possibility of a posterior presentation, if abdominal palpation, the location of the fetal heart-sound and a vaginal examination have not already made the diagnosis.

In the conduct of such cases, a few important things should be borne in mind and that is that in at least 95 per cent of Occipito Posterior cases, anterior rotation takes place naturally and in only 2 to 5 per cent. of such cases does the occiput rotate into the hollow of the sacrum. Even in the latter event, although it is claimed that the patient is subject to severe laceration of the perineum, it will be found that if properly conducted this can be avoided in many cases. Consequently conservatism should be practiced in the early conduct of these cases, but when in spite of a fair trial, nature does not help the patient to a safe delivery, then prompt and effective measures should be instituted at once and the delivery terminated. The writer in that case would advise the discontinuance of all those meddlesome tentative measures that require the frequent introduction of the fingers into the vagina, as not in accordance with up-to-date obstetrics in which ordinary vaginal examinations even are really tabooed.

Early in the treatment of these cases the patient should keep about in the room as much as possible, the abdomen supported by a firm towel or well-fitting abdominal binder, to support the uterus and aid in the proper direction of the uterine contractions. At proper intervals, the patient should rest by sitting down upon a low stool, so that the thighs in addition, support the sides of the

abdomen in a pain. Then when this first stage of labor has continued long enough and the patient shows signs of tiring, a judicious hypodermic of morphine with the postural treatment continued in bed, may help matters along. In other words, the patient should be given an opportunity to get a good rest, she is placed upon the side towards which the occiput points, she rests under the influence of the opiate, the pains continue, dilatation often proceeding even faster than before. In consequence of the lateral position the fundus and the back of the child are carried farther forward and in favorable cases the head may rotate forward also. Under other circumstances after a good rest, the patient continues as before, if still in the first stage of labor, with no artificial rupture of the bag of waters, unless there are positive indications for such a measure. In the second stage the patient should at times be allowed to sit up in bed clasping the knees, such a position bringing about good flexion and favoring the descent of the occiput. When in the estimation of the attending physician the patient has been given the proper opportunity to deliver herself, and in spite of this, anterior rotation has not taken place, then artificial assistance must be given her. Whether this is justified after one or two or three hours of second stage pains, can only be determined by the intelligent attending physician.

The writer objects to all such measures as introducing the fingers into the vagina and pushing upon the sinciput during each pain, or introducing the whole hand and turning the head around to an anterior position and holding it there firmly until it is well fixed in its new position by a few good pains. The objection to all such measures is that there is too much risk of infecting the patient and substituting a dangerous septicemia for a comparatively harmless occipito posterior position.

Instead the writer prefers to have his patient under surgical anesthesia upon a firm padded kitchen table, if the labor is conducted in a private house, the external genitals cleansed thoroughly and then rotation and delivery at once performed by means of the forceps.

In all forceps operations, a preliminary stretching of the perineum should precede application of the blades. The index and middle finger of the right hand should be inserted into the vagina and the muscles of the perineum stretched in all directions by a downward, outward and lateral massage of these structures continued for 10 to 15 minutes, until they are soft and yielding. This preliminary manœuvre will go far toward

preventing a laceration in the operative procedure that is to follow.

In this operation the double forceps application of Scanzoni, in a right occipito posterior position the blades of the forceps would be applied to the sides of the child's head and when locked the handles would point to the left thigh of the mother. At first gentle downward traction is made and soon the operator can feel a tendency to rotation after a few tractions and following that tendency and without the use of any undue force, the occiput will have shortly rotated with the forceps and under the symphysis pubis, the blades of the forceps being completely inverted. The instruments are removed and re-applied as in an ordinary forceps operation and delivery is readily effected and in careful hands with little or no injury to the perineum.

Williams states that delivery is so readily and safely accomplished by this method, that he no longer dreads occipito posterior presentations. This has also been the experience of the writer in quite a number of cases, conducted in private and hospital practice.

In the comparatively rare cases in which the occiput rotates into the hollow of the sacrum, the same plan should be followed, that is, the patient should be allowed a reasonable time to deliver herself, and failing in this, she should be delivered by forceps under general anesthesia.

With the occiput in the hollow of the sacrum, the blades of the forceps are applied to the sides of the child's head and far back, and now it must be borne in mind, that the delivery in these cases is effected by an enormous elongation of the head. Traction from the beginning is almost directly forward and when crowning of the vulva begins and part of the vertex protrudes from the vagina, then the forceps traction should be continued with one hand, whilst the other hand keeps the presenting part as it emerges, pushed well up against the symphysis pubis. The head should practically be drawn out of the vagina in a forward direction, the operator constantly keeping the blades of his forceps in the middle line of the pelvis and being very careful not to let the tips of the blades dip downward and cut the muscles of the perineum.

The writer has delivered a number of such cases with absolutely no laceration of the perineum and believes that in many instances in which severe lacerations occur in the delivery of these cases, the accident may justly be charged to the faulty use of the forceps and not to the abnormal position.

As to the use of version in occipito posterior cases that show no tendency to anterior

rotation and do not respond to postural methods, the writer would not consider such a radical procedure indicated unless some other distinctly recognized abnormality either of the mother's pelvis or uterus, accounted for the difficulty, and under such circumstances, the version would not then be performed on account of the occipito posterior presentation, but on account of the accompanying abnormality.

Under other circumstances when the bag of waters has ruptured, to anesthetize the patient, insert the whole hand into the vagina, seize the head, push it up out of the pelvis, turn it forward, and then in many cases deliver by forceps, subjects the patient to a possible rupture of the uterus and substitutes a dangerous high forceps operation for the much easier and safer method advised above.

Consequently the writer believes it is in the best interest of up to date obstetrics that all other tentative measures be abolished and this radical procedure, delivery by Scanlon's method be adopted as soon as natural methods fail in the delivery of occipito posterior presentations.

DISCUSSION.

Walker B. Gossett: The essayist has given us a very excellent paper on this subject, but I wish to take issue with him on one point; that is, the posture in which he places the patient. All authorities state that the woman should be placed on the side to which the occiput is directed. When I went to college, Professor Ritter taught us that the patient should be placed on the side opposite to that in which the occiput is directed. After graduating and taking up the practice of obstetrics, I looked into this, and I believe he was correct. This throws the body of the child toward the side opposite to that which the occiput is directed, thereby causing increase flexion of the head. With the head entering the superior strait in the occipito-posterior position, you want an increased flexion of the head. By placing the patient on the side to which the occiput is directed, you cause an extension of the head, thereby encouraging a face presentation.

As to rotation of the head in the pelvis, when you rotate the occiput, you must at the same time pass up and rotate the anterior shoulder. If you do not, the occiput will come back posteriorly.

As to the other items in the paper, I agree with Dr. Speidel thoroughly.

Edward Speidel (Closing): In regard to the point brought up by Dr. Gossett, Professor Ritter read a paper upon this subject at the Winchester meeting of the State Association, in which he advocated the posture mentioned by Dr. Gossett. Unfortunately, however, Dr. Ritter was not able to attend that meeting; conse-

quently, we did not hear his experience with that method.

I have only used the postural method in cases where the patient was worn out and consequently was put under the influence of an opiate and I have followed the accepted plan of placing the patient on the side to which the occiput is directed. I believe that, in 95 per cent. of cases, the occiput rotates forward anyhow, so that it is a very difficult matter to decide just which is the better of these postural methods.

My object in bringing this subject before the society to-night is to lay especial emphasis upon the fact that, in doing obstetrical work, we do not conduct it along surgical lines, and I believe this must be done before we can make any progress in obstetrics. That means that all patients seen in private houses must be prepared as they would be for a gynecological examination, and there should be full exposure. By that I mean that the woman's legs should be draped, and the vulva covered with a clean towel when manipulations are not necessary, and when necessary this should be taken off and laid aside. You will find that very few women in the second stage of labor will raise any objections. In the delivery of the placenta, or any operation at all, the same precautions should be observed as in surgical cases. We have plenty of time to give the patient the benefit of every aseptic procedure known to modern surgery, and those aseptic procedures can be carried out in a private house. The patient should be anesthetized to a surgical degree, and placed on a firm table, the legs being held by a competent assistant. Then the external genitals should be properly cleansed and, in short, everything done as if a surgical operation were going to be performed. It is the practice of many to insert the finger into the vagina from fifty to a hundred times during the second stage of labor, losing sight of the fact that there is great danger of infecting the patient. Of all the complications in obstetrical cases, I do not believe there is any complication that worries the attending physician more than puerperal infection, and I, for one would rather see any complication in labor than an elevation of temperature during the lying-in period, which, when it occurs, must, I think, under all the circumstances, be ascribed to some mistake in the aseptic conduct of the case.

Cause of Recurrence of Herniotomy.—Mantelli has become convinced that the nerves are liable to be injured by a ligature applied in the course of treatment of inguinal hernia, and that this injury of the nerves leads to degeneration of the tissues which they innervate.

THE TREATMENT OF GASTRIC ULCER.

By JOS. A. SWEENEY, LOUISVILLE.

As the origin of *Ulcus Ventriculi* is by no means clear, the question presents itself, as to whether there exists a greater disturbance in the motor sphere, especially in the *muscularis mucosae*, or in the secretory function of the stomach.

Erosions of the mucous membrane are often found to exist in apparently healthy stomachs, as has been shown by Einhorn. Such conditions are usually attended with an insignificant amount of hemorrhage. Here a question arises, why in some cases, this little loss of stomach tissue extends to establishing a chronic ulcer; whilst the greater number of other such cases heal in a very short time, leaving scar tissue behind, which we well know remains as such, as the glands once destroyed will never be re-established.

These defects in the mucous membrane are usually situated in the sulci between the folds of mucous membrane, which cover and protect them from the action of the stomach juices.

Where the folds are absent and especially, when an anaemic and an atonic condition exists, at that point will most likely be found the ulcer. It is a well-known fact that ulcers or remains of ulcers have been often found at the autopsy, on persons who never had or gave any symptoms nor manifestation of an ulcer of the stomach. So we must all agree that it is very difficult to state positively that an ulcer exists. It is very easy in well marked cases, when blood is being vomited in large amounts and intense pains, with vomiting, following every meal or ingestion of food. And again, it is equally as difficult, when such symptoms, as little pain, tenderness over epigastrium, with irregular attacks of vomiting, without blood are met.

One would feel very confident that an ulcer of the stomach existed, after finding the following symptoms: — *Haematemesis*, general anaemia, a circumscribed and localized point of tenderness, to the extent of pain upon pressure and this always at the same point; and the characteristic pain in the stomach immediately upon the ingestion of hard foods. Great importance must be attached to the finding of a condition of hyperacidity and especially hypersecretion.

You can almost speak with certainty that with the above symptoms existing, likewise a disturbance in the motility of the stomach, when within seven hours after the chief meal, the stomach is found not to be empty, that an ulcer exists.

In the last few years, we have received

great assistance in making our diagnosis more certain. This has been through the application of Weber's test for occult blood to the faeces, after keeping the patient on a diet free from fresh meats for at least three days, prior to the test.

The application of this test must be made, in suspected cases, to the stomach contents as well. Whether Salomon's test, which is said by Schmidt to be of great value in making diagnosis of gastric carcinoma, is of any practical worth in clearing up the ulcer diagnosis, is, as yet, to be demonstrated.

The test consists in finding albumin in the washings of a fasting stomach. Witte's experience confirms that of Schmidt's. He assumes that albumin and nitrogen then found in the stomach contents must be due to exudation from an ulcerating surface. Considering these positive signs, one can usually therefrom confirm or exclude the existence of any ulcers or defects in the continuity of the gastric mucous membrane. Surgical interference has won quite a place in the treatment of gastric ulcer; while some few years back, the surgeon was only called in, when peritonitis seemed imminent.

But as is usually the case, the treatment of gastric ulcer still remains for the internal medicine man. When his art fails and the general condition of the patient does not preclude such drastic measures, then comes the operation in question.

The internal treatment for Gastric Ulcer demands as great an amount of care and attention as does any other illness. Certain rules must be given and same closely observed.

The dietetic rest cure of Von Leube is well known and consists in absolute rest in bed, hot applications on epigastrium, special form of feeding, and medication.

I believe that in such severe cases, the patient should stay at absolute rest, longer than Von Leube requires; which is ten days; but to do this, one must exert great influence over his patients; for, unless patient is extremely weak from loss of blood, etc., he will feel as though he was being kept abed longer than necessary, in that he is free from pain, which same usually does not return, while under such treatment.

Why this freedom from pain, is rather hard to explain; as only in a small number of cases, are ulcers found on the anterior wall of the stomach, so that the dorsal position would seem to be contraindicated, in that the gastric fluids would, in the like position, continually bathe the ulcerated area. Agèron has shown that the greater curvature, and especially the antrum pyloricum, from the effect of the pressure and irritation of

certain kinds of food and also a certain amount of accompanying atony of the wall, are most likely to get the brunt of the ulcerative process.

Then again the pressure of other organs in the cavity, liver, spleen, kidney, bowels, etc., which have lost their anchorage and are moving about in the cavity, depending on the direction of pressure, may be a factor.

Ponfick has pointed out that the position of the stomach is dependent upon that of other organs in the cavity and we can readily agree that this would greatly influence the mobility of the stomach. This may be a factor in reasoning out the results gotten, in placing the patient on back, at absolute rest for from 14 days to three weeks.

As there is always an inclination to hemorrhage and vomiting in such extreme cases, it is very essential that we impress on the patient the danger of any unnecessary movement in bed and that same must be avoided. Only after a gradual decline of the symptoms should the patient be allowed to sit up.

While taking the rest cure most patients are prone to become constipated, which same must be met with small doses of Karlsbader Salts.

Von Leube prefers the linseed poultice as a means of applying heat. This he boils to a thick consistency and divides in two parts. One is kept hot by steaming, while the other is applied over stomach area. As soon as one is cold, the other is applied. After this period, the Priessnitz applications are applied. Instead of the linseed poultice, other means of heat may be used; such as hot compresses, etc.

The Priessnitz applications are continued the rest of the rest period, after which, a flannel binder is applied, which same is to be worn for an indefinite period.

The above applications are used only when there is no hemorrhage. Where hemorrhage exists, he applies the ice bag over the gastric area.

The Von Leube method is very trustworthy and is at present very generally used, although it is considered of less value than the rest cure, which is thought to really be the healing factor of this treatment. Now it seems that there might be found a great objection to the continual use of the hot and cold applications, in that, a disturbance in the circulation, situated in deeper channels, might be brought about. This might show no evil effects in one patient, but might in another. I believe it would be better to have an hour's freedom from poulticing. This would allow the reaction to occur, thereby resting the blood vessels; whereas otherwise, a stasis might occur. We have often seen,

after continued poulticing, red spots in the skin, which same remains for a long time and finally leave a pigmentation that remains for the rest of the patient's life.

Anaemic and weak patients are sometimes very sensitive to the irritation of the Priessnitz applications.

When so, add alcohol to the water, half volume. There are few so well known and acknowledged methods as is the Von Leube diet. This he has divided into four steps, the first for 10 days, the second for 7 days, the third for 5 days and the fourth for 7 days. The first consists of boiled milk; meat juice; bouillon; and soft unsweetened zwiebach.

The second; the same as the first; also well cooked and thin oatmeal soup; rice and sago, well cooked in milk; ice cream; soft and raw eggs; well boiled calf's brains; well cooked chicken breast or squab, after skin and all fat has been removed.

The third; the same as the first and second; also scraped raw ham, scraped beef, half raw; puree of potatoes; bouillon and rice; very small amount of coffee or tea.

The fourth; consists of the first, second and third; also tender roast beef cooked rare, roasted chicken or squab without gravy, macaroni and noodles well broken up before cooking, small amount of white bread. After this, patient goes gradually back on his old mode of diet.

Von Leube does not state the amount of the different kinds of nourishment to be given, but he divides the daily nourishment up into five meals and admonishes against over distention of the viscus.

In hemorrhage, when it becomes necessary to nourish patients, rectal feeding must be resorted to. I use the following, knowing the exact number of calories therein and modifying it to meet the remnants of the patient.

Dry soluble peptonoids, oz. 2,

Whiskey, drachms 2,

Tinct. Opii, gtt. 10.

Normal saline, sol. oz. 6.

Mix well and give every 5 to 8 hours; after washing out lower bowel with normal saline solution. This gives me approximately 725 calories at a feeding and I consider it the best mixture I have yet tried, as there is a freedom from the gases that are produced from the milk, eggs, etc., which usually compose a rectal feeding.

The diet of Von Leube is similar to that of Penzoldt and the office of both is to give sufficient nourishment and at the same time, spare the crippled organs. Not only is the healing ulcer protected against irritating food matter, but the mucous membrane itself, and as there is no irritation, the organ is practically at rest.

Lenhartz, of Hamburg, is at variance with this idea, he believing that anaemia and hyperacidity, two symptoms, which not only predispose of ulcers ventriculi, but also frequently accompany and retard the healing of the ulcer; and that the diet, as given by Von Leube, is too low in albumin and besides carries with it too much fluid, which overfills and distends the stomach. Lenhardt gives to all his ulcer patients, except those with severe hemorrhage, a concentrated albumen diet and increases it proportionately, until by the 144th day, patient is receiving over 3,000 calories, per day. On the first day after the hemorrhage he allows his patient to take, in small amounts at a time (teaspoonful), two raw eggs, beaten up with iced wine. Also 200 cc. milk daily; and both increased until after 8 days, patient is getting daily, one litre of milk, 50 gms. sugar, and 8 eggs. On the 16th day he adds 35 gms. chopped meat and on next day, milk and rice. By the end of the third week, his patient is getting raw scraped ham and butter. Lenhartz and his followers recommend this regime, about all others, to obviate the inclination to hemorrhages, in that it combines with the HCl. reducing its amount, which hastens the healing.

Senator combines the forepart of the dietary treatment of both Von Leube and Lenhartz, but dispenses with the latter part of each.

He has formulated a diet in which there is sufficient nourishment, without testing the stomach's capacity and at the same time combining with the excess acid. He believes this is best done by combining lime, gelatine, fat, and sugar with a small amount of albumin.

The lime he gives in calf's foot or chicken jelly, and later as a decoction of gelatine. For fat, he suggests cream, emulsion of sweet almonds, or small pieces of frozen butter.

Comparing these three modes of the dietary treatment of *ulcus ventriculi* from a theoretical standpoint, we find it is not very easy to accept one in preference to the other. All three have their good qualities, and likewise their bad; and it will not do to combine any of the three principles in the treatment of every case. In some cases, we will meet with absolute failure in using the aforementioned modes of therapy.

After accepting the best part of the dietary cure of Lenhartz and Senator, we fall back on the rules as given by Von Leube and widen them to the extent of adding the eggs, gelatine, butter, cream, milk of sweet almonds, sugar and milk and rice. I'm inclined to be very cautious about giving chopped meats and scraped ham, as raw connective

tissue makes greater demands on the gastric juices, than any other class of food.

So much for the diet in ulcer, when not complicated by hemorrhage. I'll only touch on the medical treatment.

Teaspoonful of Karlsbader ("Sprudel") Salts in glass of warm water, taken slowly into an empty stomach may be given to keep the bowels regulated. How and in what way it effects the juices of the stomach is yet to be proven.

Bismuth and the silver salts are well known and much used in treatment of ulcer. Opium, belladonna and cocaine to meet and allay the pain are not to be dispensed with.

Kussmul's bismuth treatment, consists in giving daily 10-20 gm. bismuth subnitricum in 200 cc. water. The stomach is first washed out thoroughly, using a soft rubber tube; then the bismuth, well stirred in the 200 cc. water, is poured through tube into stomach; when patient must lie on the affected side for 1-4 hour, allowing the bismuth to gravitate and settle over ulcerated area, after which the water is allowed to run out through tube. Instead of pouring bismuth mixture through tube, patient can sometimes, after stirring, quickly drink the mixture, then lie on his side as before mentioned. That the bismuth covers the ulcer, we know, as this has been observed and fully demonstrated.

Washing the stomach with a 1% nitrate of silver solution is good practice.

Or after washing with clear water, give 1-4 hour before eating, tablespoonful of .01% solution silver nitrate. This is particularly fit treatment in the convalescent stage, when the patient is up and moving about.

After six weeks of the dietetic and rest cur., the greatest number of cases are so free from any of the ulcer symptoms, that you are safe to pronounce the ulcer healed. In doubtful cases, when patient is not entirely free from pain and the test for occult blood in the faeces is not negative, the case must still remain under observation.

It is, generally speaking, well to allow the patient after you have dismissed him as cured, entire freedom in diet, in that he can regain lost strength as soon as possible.

It is well that he be required to return now and then, for the occult blood test, and if in keeping with patient's circumstances, give him a change of scene and send him to a suitable mineral spring or to the country, where his strength can be quickly regained.

When there is only a period of freedom from these attacks, which same, not only interfere with patient earning his living, but endangers his life, it is time to call the surgeon to his relief.

I believe in such cases a gastroenterostomy should be done and not the ulcer excised. I've had the good fortune to follow several of these cases in the clinic, and they have all done well and were enabled to follow their vocations without interruption and with entire freedom from the unpleasant and dangerous symptoms that they had previously suffered.

In cases of severe hemorrhage, put patient at absolute rest with ice bag over epigastrium, and in case of retching or where patient is very restless, give a form of opium or belladonna hypodermatically. As to the nourishment, it is better to withhold it, unless weakness demands it, then resort to the rectal feeding.

When great thirst is complained of, pieces of ice can be held in the mouth. The rectal feeding must only be given by a competent hand, for if the mucous membrane of the rectum becomes irritated; then, our only means of feeding may be lost. If, as last means, we are forced to feed by mouth, give ice cold milk or ice cold meat jellies. In violent and continued hemorrhage, give acetate of lead in 0.05 powders every two hours; or adrenalin 1-2 cc., M. O. 1% solution; or ergotin hyperdermatically (Ergotin 2, O Aqua and glycerine aa. 5.0); hyperdermatic syringe full every two hours.

Some men advocate washing the stomach with ice water, but I'm inclined to believe that few men would have the nerve to attempt this, when patient is vomiting quantities of bright red blood.

Other measures, such as infusions of normal saline solution; transfusion of blood, etc., are not to be forgotten, in extreme hemorrhage. Opening the abdomen and tying off the artery is only for the attending physician to decide. As perforation is not always easy to diagnose, it often puzzles one, just what means to pursue. I once heard a clinician say that if perforation occurred when stomach was empty, he treated the case medically, but if after a meal, when viscus was filled, he resorted to the knife. I hardly think that if I recognized symptoms of perforation and felt certain of my diagnosis, that I'd take much time to argue that point.

DISCUSSION.

Charles G. Lucas: Dr. Sweeney has brought up a very important subject, and one in which we are all interested, whether internists or surgeons. If the cases we see were such as Dr. Sweeney describes, we would have very little trouble in making a diagnosis. The question that always confronts us in making diagnosis is the possible age of this ulcer. The very fact, which Dr. Sweeney mentioned, that so many ulcer scars are found upon post-mortem examinations, has led

us to believe that a great many of these ulcers are chronic by the time we see them. Of course, when we see a patient who has never before complained of any stomach trouble, and who is having hemorrhage, we have a right to conclude that the patient has an acute gastric ulcer. It is this fact that renders medical treatment in so many of these cases unsatisfactory. I have kept patients in bed for four weeks and, at the end of that time, aside from relief from pain, they were no better than they were before. The more I see of these cases, the more I believe that surgery plays an important part.

I have never tried the Lenhartz method. The essayist states that, on the fifth day after hæmatemesis, Lenhartz gives these patients most. I do not think I would like to have that tried on myself, nor would I like to try it on a patient. I have treated a number of cases by the Von Leube method—the rest cure and a soft diet.

Two or three weeks ago I read an abstract of an article on the Bourget method of treating these cases, consisting of lavage with 1 per cent. tincture of chloride of iron, and it is claimed by Bourget that this will effect a cure in 14 days. Perhaps he does, but I am inclined to differ with him. I do not think the method has been tried sufficiently to put it down as an absolute cure.

Like Dr. Sweeney, I think it takes lots of moral courage to put a tube into a man who is bleeding freely and pour ice-water into him, but I notice that Ewald has treated a number of cases by means of ice-water.

The more I study these cases, the more I believe that the recrudescent and acute cases will some day be divided, and that the latter will be treated by medical means, while the recrudescent cases will be turned over to the surgeon.

R. Hayes Davis: In regard to the diagnosis of this condition, I would like to call your attention to one point that Dr. Sweeney failed to mention, which is not always present, but, when it is present, is of the greatest importance. That is, the presence of a localized point of tenderness to the left of the spine, posteriorly. This is rarely found in any condition other than gastric ulcer. This point of tenderness is present in only 20 to 30 per cent. of cases, and especially in cases where the ulcer is on the posterior wall. However, it should be looked for in every case of suspected gastric ulcer.

In regard to the treatment of these cases, it has been my habit to employ rectal feeding for the first few days, regardless of whether or not hemorrhage or other acute symptoms are present. This gives the stomach absolute rest from the start. After the patient has been on rectal feeding for three or four days, then begin cautiously with the Penzoldt diet list, which is very similar to the Von Leube, except, possibly, it is more complete and more definite.

In regard to the after-treatment, the patient's diet should be carefully watched for a number of months, as relapses are apt to occur, and the patient should be especially cautious about eating any fruit whatever, either cooked or raw; also, anything too hot or too cold, as these are three articles of diet of marked importance in causing relapses.

I believe we are justified in treating every case of acute ulcer by medicinal means for a certain length of time, but chronic cases, owing to the frequency with which carcinoma is engrafted on the site of these ulcers, should have the benefit of surgical interference. Recent reports show that 80 to 90 per cent. of cases of carcinoma of the stomach are secondary to ulcers. Therefore, I think that, if the case shows any tendency whatever to chronicity, we are not justified in carrying on medical treatment. There is danger, not only of carcinoma, but of perforation, formation of adhesions, chronic pancreatitis, and many other conditions which could be mentioned.

There is one form of treatment which has been highly recommended, and I have used it in two cases; that is, giving olive oil. This is given in addition to other treatment, and not as a substitute for anything else.

Jno. J. Moren: One point in the diagnosis of this condition which has not been referred to, and which is mentioned by Conheim, is persistent pain, occurring two or three hours after each meal, and which may be relieved by taking food. Conheim attaches a great deal of importance to this.

Just about five years ago, in a discussion along this line, one of our surgeons was talking a great deal about operating for gastric ulcer, making loops, vicious circles, and in the discussion I stated that I did not think the "loop-the-loop" would ever take the place of the "scenic railway." I am still of the opinion that the medical man has plenty to do in the treatment of gastric ulcer.

W. F. Boggess: I have listened with a good deal of interest to the paper as well as the discussion.

Five or six years ago, as Dr. Moren has said, it was generally considered that the general practitioner who attempted to treat a case of acute gastric ulcer was really guilty of malpractice, and that ulcer of the stomach was never at any time a medical condition. I had that very forcibly impressed upon me in one case, in which a surgeon had been called, and he told the family that the patient should be operated on at once. They sent for me, and I told them that the patient would not get well without surgical interference, which he did and remained well. In recent articles the Mayos do not advocate surgery in these cases to such an extent as they formerly did, and do not recommend operation for ulcer of the stomach unless there is pyloric sten-

osis from old, chronic contractions. I think surgeons, as a rule, are now giving medical men their dues and letting ulcers of the stomach alone unless the case demands surgical interference because of complete pyloric obstruction. I have never seen a case of gastric ulcer die. On the other hand, I have seen them get well and remain well for years. I have also seen a few cases in which recurrence took place, but I have never seen a case of acute ulcer of the stomach where I felt it necessary to call a surgeon into the case.

H. H. Grant: I had thought, from the remarks made by Dr. Sweeney and emphasized by Dr. Lucas, that it would not be necessary for any surgeon to express himself on this subject, their views representing exactly what I think is the view of the profession to-day; namely, that acute ulcers of the stomach should be treated by the method mentioned by Dr. Sweeney and approved by Dr. Lucas, but that chronic ulcers, which tend to the development of malignant conditions, in addition to the danger from stenosis, are proper subjects for surgical interference. The operative treatment consists, I think, preferably of gastro-intestinal anastomosis. Notwithstanding Dr. Moren's remark, we make anastomosis without the loop. I refer to posterior gastro-intestinal anastomosis.

I think Dr. Boggess has put a slight upon surgeons that they do not deserve, because I do not remember that it was, at any time, the unqualified recommendation of the surgeon to do gastro-enterostomy in cases of acute ulcer of the stomach. It has always been the plan of the surgeon to follow the expectant plan of treatment for four or five weeks before operating, and those that passed into a chronic condition, or were chronic when they came to us, were, of course, considered fit subjects for surgical interference.

I think possibly the fact that Dr. Boggess has not seen a death in the cases of gastric ulcer that have come under his observation has been due to the fact that diagnosis was not accurately made. We constantly see in the newspapers accounts of men suddenly dying of attacks of acute indigestion. I doubt very much whether any one dies of acute indigestion without some structural condition present which leads to the fatal termination, and in the majority of cases this condition is perforation from unrecognized ulcer.

Chas. G. Lucas: In speaking of cases that should be referred to the surgeon, I did not mean for the purpose of gastro-enterostomy alone. I believe that a great many of these gastric ulcers are the result of lesions of the surrounding organs. I saw a case not long ago in a woman who had all the typical symptoms of ulcer. After she had been in bed for six weeks, she suffered so much pain that it was decided to do an exploratory operation, and when the abdomen was opened there were so many adhesions that it

took twelve minutes to get into the peritoneal cavity.

In regard to the tender point in the back that Dr. Davis spoke of, it has been stated that, where this tender point exists, the patient will not stand a pressure of more than four kilograms, while a patient with a normal back and stomach will stand as high as ten kilograms. I have seen this tried on a great number of cases of ulcer of the stomach, and most of them were able to stand as much pressure as any ordinary person. Therefore, I have lost a great deal of confidence in the value of that tender point behind.

J. A. Sweeney (Closing): I wish to thank the gentlemen for their generous discussion of my paper. Of course, there are some things which I left out in regard to the treatment of ulcer, but this is a very wide field and would take a long time to cover it thoroughly.

In regard to the tender point between the 9th and 10th dorsal vertebrae on the left side, I have not found this to be of much value in the diagnosis of ulcer, because we get the same tenderness in erosions and also in hyperacidity with pyloric spasm.

CLINICAL CASES

THE MELTZER AUER POSITIVE PRESSURE APPARATUS FOR INTRA-THORACIC SURGERY.

AUGUST SCHACHNER, LOUISVILLE.

At the onset it may be well to recall a few well established points in the physiology of the respiration, namely, that in ordinary quiet respiratory efforts, 300 to 600 cc. of air are exchanged which is known as the Tidal air. If the respiration deepens we call into play the Complimental air, which amounts approximately to 1,600 cc. and if an extraordinary effort is made, we call into play an additional 1,600 cc., which is known as the reserve air. The sum total of these represent the Vital capacity. There yet remains what is known as the Residual air, amounting to 1,600 cc. The function of the Residual air is to prevent the collapse of the lung. It is well known that the thoracic cavity has been the last of the regions of the body to be invaded by the surgeon. This has been due to the fact that any opening of the pleural cavity would result in collapse of the lung owing to the atmospheric pressure being greater than the resistance which the Residual air could offer. Where but one pleural cavity is involved, the difficulties are not so great, but where both pleural cavities are open some method must be employed to prevent the collapse of the lungs and the consequent death of the subject. The collapse of the lungs can be

prevented either by the use of compressed air by means of a chamber or cabinet, mask or intratracheal tubes arranged in such a way that the pressure within the lung is increased to a point equal to, or greater than the pressure represented by the atmospheric air upon the outside, or the inflation of the lung can be maintained by decreasing the pressure upon the outside through ramification. In other words, in the first instance, keeping the lung inflated through an inward pressure or in the second instance, keeping it inflated through an outward suction. Which of the two methods is the better is a question yet to be decided by time and experience. Those favoring the positive pressure method have been inclined to devise arrangements that are portable, cheaper and simpler than those employing the negative pressure in which cabinets figure and which are more costly, not portable, and usually more complex. It might be well to state that cabinets have also figured where the positive pressure was employed. The apparatus to which I call your attention this evening is known as the Meltzer-Auer Apparatus and is the same as the one in use in the Rockefeller Institute in New York City. This apparatus has proven eminently satisfactory for experimental work and some have proposed it for use in the human subjects provided some modifications are made. The apparatus has been modified by Dr. Elsberg of the Mt. Sinai Hospital, using an air pump instead of the bellows and adding an air chamber so that the air can be delivered with uniformity and at a suitable pressure.

In addition, the air is washed, warmed, rendered humid, and sterile by being passed through a large bottle of hot sterile water. The gag is fastened to the upper jaw, leaving the lower jaw and mouth fairly free.

With these principal modifications and one or two other minor points, it has been used successfully in one instance. The most wonderful cabinet in existence is the one devised by Dr. Willy Meyer, and his talented brother. The two have joined forces and have constructed a very wonderful cabinet or rather a double cabinet, an outer one enclosing an inner one. It is possible to secure negative or positive pressure in either cabinet, giving the surgeon absolute control. The apparatus we have this evening, may require some addition before one would feel like trusting it in the diseased human subject, although it has abundantly proven itself successful in lower animals. Even in its simple form it has a place in conditions about the human subject, as for instance, in desperate cases of opium poisoning, gas poisoning, accidents from ether or chloroform narcosis, in asphyxia

of the new born. It is not difficult to introduce the index finger, pull the epiglottis forward and guide a small catheter into the trachea until it meets with an obstruction which indicates the bifurcation of the trachea, then withdraw it for an inch or two and you will be able to force air into the lungs and do the breathing for the subject for an unlimited time, four days or more as it was done in Buffalo by Dr. Fell in a desperate case of opium poisoning in which the life was saved through the artificial respiration kept up for several days.

DISCUSSION.

A. M. Vance: I have been very much interested in this report. It seems to me to be a very ingenious contrivance, but I do not know anything about it practically.

Henry M. Rubel: I would like to ask Dr. Schachner whether the controversy Willy Meyer has with Meltzer is in regard to this apparatus. I believe Willy Meyer calls it the blow-pipe method, and I would like to get Dr. Schachner's opinion in connection with that.

W. C. Dugan: I wish to thank Dr. Schachner for bringing up this subject and showing us a simple apparatus that we can use. The negative apparatus can never be brought into general use and even for hospitals it is very expensive.

I have never used an apparatus of this kind; in fact, I have never felt the need of it in my chest work, because I have never been unfortunate enough to have the lung collapse, and I am sure that it occurs in only a small percentage of cases. Of course, where there is not enough solid tissue in the lungs to prevent collapse, it is necessary to have some kind of apparatus, or make some provision against collapse of the lung. Of course, we can expose the lung, catch up the pleura and stitch it to the chest wall and hold it in position, but that is not nearly so efficient as the apparatus Dr. Schachner has presented.

Gaylord C. Hall: If I am not mistaken I saw an article in the Laryngoscope recently, which stated that there had been invented, to take the place of the tube which Dr. Schachner introduces into the trachea, a bronchoscopic attachment for the purpose of delivering the anesthetic, with an auxiliary tube which, at the same time, by means of suction, removes the mucus. The tube is made somewhat on the order of the oesophagoscope, except that, in addition to the suction tube, it has a tube for delivering oxygen and ether, or air and ether.

Carl Weidner: I think the society is greatly indebted to Dr. Schachner for showing this apparatus, which, so far as I know, has not been used here. Last year I had a case, which Dr. Schachner saw, and which we were convinced was a suitable one for operation, but the patient did not think so until too late. She died without opera-

tion. Dr. Schachner was very much interested at that time and doubtless he has since made himself thoroughly familiar with this important branch of surgery, and I hope the time will come when the surgeons will be able to operate in these cases with satisfactory results. I looked up the literature at that time, and found that the result of operations were very unsatisfactory, one man giving a mortality of four out of eleven operated cases; another, 5 out of 21 cases. Those cases, however, were those in which extensive operation was necessary, not only splitting the cavity, but the entire lung, through the root of the lung, and included acute as well as chronic cases of hepatic abscess. It seems that the latter are particularly dangerous, not only on account of the loss of resistance on the part of the patient, but because they are frequently tubercular.

Albro L. Parsons: Dr. Dugan and myself had an ideal case for the use of this apparatus. This patient came to Dr. Dugan some years ago with quite a large abscess of the lung. Dr. Zimmerman saw the case with us and concurred in the diagnosis. Dr. Dugan resected two ribs and, instead of opening the pleural cavity, we went through it with an aspirating needle and located the abscess in the lung tissue, and then followed the needle down with a cautery. The abscess was drained for about three months, but showed no signs of closing and Dr. Dugan allowed me to operate on him a second time with a view of getting a little lower drainage. On that occasion we found a phosphatic deposit around the abscess. This patient informed me by telephone the other day that he is in the same condition. I believe that by the use of the apparatus Dr. Schachner has exhibited, something could be done for this man.

August Schachner (Closing): First, as to the nomenclature. Willy Meyer has referred to this as the blow-pipe method, and the other as the classical method. The discussion has been going on for about three or four years and is now getting good and warm. It will take some little time before it is entirely settled.

The purpose of this arrangement is, not so much to enable us to open the pleural cavity, because we can do that without it in most cases and get along very well; but where we have to open both pleural cavities; for instance, where we want to do excision of the thoracic portion of the oesophagus for carcinoma of the oesophagus, or in operating for mediastinal tumor, where we have to open both pleural cavities, this apparatus may prove to be of great value. It is not really necessary in Dr. Parson's case.

In regard to the tube that Dr. Hall spoke of, I will say that a great many tubes have been devised. This apparatus as we see it here, even in its very simple state, has a place in surgery in the human subject; for instance, in opium poi-

soning, where you have to breathe for the patient, which Dr. Fell, of Buffalo did for four or five days in one case, and finally saved the patient's life.

ACCIDENTAL HEMORRHAGE WITH REPORT OF A CASE.

BY EDWARD SPEIDEL, LOUISVILLE.

I can report a case of accidental hemorrhage, that is, hemorrhage from a normally implanted placenta, which may be of interest to the society. This woman would have been due on Jan. 13th, 1910; she came in labor on November 11th, 1909. The history was about as follows:

This woman, when about four months pregnant, was injured in a runaway accident, being thrown from a buggy a distance of ten feet and striking a telegraph pole. That was in August, 1909. This accident was not followed by any untoward symptoms. On November 8th, in the morning, this patient called me up and asked permission to go to a railroad station to say good-bye to a friend, who had been a patient in another Infirmary and was going home on a stretcher in the baggage car. The next evening I was called to see her because of a flooding spell, and I then learned that, on the impulse of the moment, she had accompanied the other patient home, a matter of ninety miles, riding in the baggage car and sitting on a trunk right over the trucks. I ascribed the condition that followed to this ride in the baggage car. At any rate, when I was called she had very profuse hemorrhage from the vagina, which I believed to be the result of premature separation of a normally implanted placenta. When I arrived the hemorrhage seemed to have stopped and, as her condition was good, I tried the palliative treatment; that is, elevating the foot of the bed. Under this treatment the hemorrhage was checked entirely for a week. At the end of that time bleeding began again and I considered it best, under the circumstances, to deliver her. Delivery was allowed to proceed naturally, and when the placenta was delivered about one-third of it was found to be covered with a firm blood-clot, practically confirming the diagnosis.

The child was born at the sixth month and third week of gestation. It was placed in an improvised incubator under the care of a very good trained nurse, nursed with a dropper and kept warm with hot water bags and is living to-day. On the 13th of January it was nine months old and now weighs seventeen pounds.

ACTED NIGHTMARE.

BY JNO. MOREN, LOUISVILLE.

This patient, a man, 62 years of age, gives a history of having been a periodical drinker for a number of years. He took the Keeley cure three years ago and declares that he has been a total abstainer ever since. Last December he developed a sore throat. He went home and became delirious, without any elevation in temperature. From the description of his delirium, it resembled that of delirium tremens; restlessness, hallucinations, etc. This persisted for four weeks and finally ceased, but he continued to be bothered with horrible dreams. As a rule, he imagined that he was fighting robbers and on several occasions he acted his dream and fought his wife, kicking her out of bed, and his wife says that he used the most profane language she had ever heard. In the last spell he had he arose from bed to get a poker, and just as he reached down for it he came to himself.

I think this is a case of what is called sleep drunkenness, or acute nightmare. I saw him two days ago and since then there has been no farther indication of trouble. I think the prognosis is good.

DISCUSSION.

E. W. Stokes: I would like to ask Dr. Moren what he did for this patient. This so closely simulates a case that I have at the present time, that I am afraid Dr. Moren has my patient. This man is about 60 years of age. He has turned night into day. At night he talks in his sleep, abuses his wife, and imagines people are after him, and in the day time he sleeps and gives no trouble at all. Last night I went to see him at ten o'clock and put him to sleep, and to-night I am expecting to leave here at ten o'clock and put him to sleep again. I have been giving this patient digitalis and strychnia for his heart, but it has been impossible to relieve him of his sleeplessness except by giving him morphine, which I did reluctantly. One-fourth of a grain, or a little more, puts him to sleep all night. I also put this patient on the bromides, but they did not have any effect on him after the first night.

J. J. Moren (Closing): The treatment I have been giving my patient is strychnia and bromide, and it has seemed to act very nicely.

One of the most frequent causes of disturbance of sleep at this man's age is interference with the circulation and bladder diseases.

GLANDULAR INVOLVEMENT OF NECK AND AXILLA.

By E. T. BRUCE, LOUISVILLE.

I have brought this patient here for a little assistance in making a diagnosis and outlining a course of treatment.

This man is 50 years of age, married, and a native of Canada. Had the usual diseases of childhood. Family history negative, father having died of senility. No tubercular history; no syphilis. Had a severe attack of pneumonia at the age of 14, convalescence covering a period of several months. Ten years ago he had malaria and was ill for five months, profound jaundice complicating this condition. Six years ago he suffered a severe attack of grippe, and was confined to the hospital for four weeks. He was jaundiced at that time also. Two years ago he noticed a slight enlargement of the sub-maxillary gland. This increased gradually for about a year, until the size of the gland was about as you see it now, except that it was not quite so nodular. I saw him on the 16th of June, 1909, for the first time. He was anaemic in appearance, weighed 149 lbs., and was having night sweats every night. He complained of a constant tired feeling, and was extremely nervous; appetite poor. He had external hemorrhoids at this time, which had made their appearance about the same time as the glandular enlargement. He was subjected to X-ray treatment for a period of about four months, with slight improvement. Then glandular softening occurred, with discharge of a caseous material. He was also given iodides, mercury and arsenic. The night sweats stopped about a week after the time I first saw him and his weight is steadily increasing, having gained 16 lbs. in one year. The glands have continued to increase in size until now they involve the axillary spaces on both sides. I called Dr. Wathen in consultation, as the case had gone beyond therapeutic measures and I was seeking surgical assistance. There is some enlargement of the liver; no splenic enlargement, but a few glands are palpable in the abdomen on the right side.

Dr. Weidner also saw the case and made a blood examination, but the report is not complete to-night. This partial report he gave me to-night shows a hyper amount of haemoglobin; leucocyte count not yet made. His opinion is that it is a lympho-sarcoma. I would like for you to examine the man and let me have your opinions.

DISCUSSION.

Jno. R. Wathen: My opinion in regard to this case coincides with that of Dr. Weidner.

Jno. B. Richardson, Jr.: This case appears to

me to be tubercular in origin, and I would certainly apply the Von Pirquet test to determine whether it is or not. If it is tuberculosis, I do not think X-ray treatment will accomplish much. I have never seen any results from X-ray treatment of tuberculous glands.

Jno. R. Wathen: Do you consider it a surgical case?

Jno. B. Richardson, Jr.: I do not. I consider very few cases of tubercular adenitis to be surgical. Better results are gotten from treatment than from enucleation of the glands.

H. H. Grant: I believe that this case is tubercular in character. The history shows that medicine has not done any good. The glands have grown slightly and are in the way, and I think that, unless it is malignant or in the nature of Hodgkin's disease, surgery would unquestionably do him good. No possible harm could come from cleaning out the condition in this man's neck, thus getting rid of the infection and giving him a chance to get well, and, at the same time enucleating the glands and axillary structures on each side. The man's constitutional condition is such as to enable him to stand any reasonable surgery. The fact that there is no evidence of any marked changes in his blood is rather an indication of Hodgkin's disease perhaps. Still, there would be no blood changes if it were tubercular. If the patient were mine, with the history given by Dr. Bruce, and continued medical treatment had not resulted in any change other than an improvement in the general health, I would give him the benefit of surgical measures. Unlike Dr. Richardson, I believe that when these tubercular glands begin to break down they should be, not scraped or curetted, but completely enucleated. To incise and curet them is really a mistake; the best thing to do is to clean out the whole business. As medical treatment does not seem to have had any effect in this case, and as the man's general condition is still good, it seems to me that nothing could be lost by thoroughly cleaning out the trouble in the neck and removing these enlarged glands.

E. S. Allen: I believe we will be able to tell a great deal more about this case when a complete report of the blood analysis has been made. A differential white count will probably throw considerable light upon it.

To my mind, it is either Hodgkin's disease or lympho-sarcoma. The axillary condition certainly appears to be a malignant one. However, it does not grow very much like a sarcoma. Rarely do we see a sarcoma growing in multiple modules. In a sarcomatous growth there is generally an intra-cellular stroma that holds the cells together, and, unlike a carcinomatous condition, instead of burrowing out into the tissues in every direction, it grows in a mass, with little or no effect upon the surrounding tissues except by mechanical pressure, pushing the cells aside and

forming a capsule. All sarcomas are more or less encapsulated and grow out in the line of least resistance, dissecting up the anatomical plane and sticking together in one large mass. Rarel yin sarcoma do we find the multiple dissemination and metassis shown in this case.

I can hardly believe that it is of tubercular origin. However, a Von Pirquet cutaneous test ought to clear up that question very nicely. Dr. Grant stated that there are no blood changes in tuberculosis. We do have an increased number of eosinophiles in tuberculosis. In lympho-sarcoma, also, we might have some blood changes. Therefore, I think a differential count of the white cells will throw a great deal of light on the nature of the condition.

TUBERCULOSIS OF THE MESENTERIC GLANDS SIMULATING ACUTE APPENDICITIS.

BY J. GARLAND SHERRILL, LOUISVILLE

I was called to see a young woman who had been siezed, the evening before, with sudden intra-abdominal pain, located especially on the right side, giving the usual symptoms of acute appendicitis. She had elevation of temperature, acceleration of the pulse, nausea and vomiting. Although there was but little doubt as to the diagnosis, I made an examination of the pelvis under anesthetic because of the history which was that, since she was fifteen years of age (at which time she had been menstruating something over a year) she had been missing a period every three months or so, and she had had a period about ten days prior to the time I saw her. Examination of the vagina was negative. We opened the abdomen and found the appendix to be practically normal, being bound down to the caecum by peritoneal adhesions which were quite old. She had no diffuse peritonitis. When the abdomen was opened, quite a large quantity of fluid of the consistency seen in cystoma, with some white flakes in it, escaped. Upon pulling out the small coils of mesentery quite a number of lymphatic enlargements were found. The small bowel was searched farther along to see whether we could make out a typhoid lesion, but there was no evidence of it. Upon following it still further, to the root of the mesentery, we found a clump of lymphatic glands almost as large as a hen's egg, and evidently tubercular.

In my experience, I have never seen acute pain beginning or following peritoneal involvement from tuberculosis of the mesentery glands. The case is unique in my experience and I would like to ask whether any of the members have seen a case of that kind.

When we found it to be impossible to enucleate all the glands, the abdomen was

simply closed and nothing was done. Some of these glands had gone on to calcification and others were softer, but we could find no point through which we could say that the infection had escaped into peritoneum.

CYSTIC GOITER, CONTAINING BOTH LOBES AND PARATHYROIDS.

BY JNO. R. WATHEN, LOUISVILLE.

The specimen I wish to show is rather unique. It is a cystic goiter removed from a woman about 35 years of age. As a general thing, these cystic goiters originate in one lobe or the other, but in this case after entering the capsule I could not outline the lobe. It had a markedly thick capsule, so much so that the assistant called my attention to this feature when I removed it. One para-thyroid seemed to be inside of this capsule rather than posterior. By careful dissection, I managed to dissect off this para-thyroid with its blood supply and allowed it to drop back. Much to my surprise, when I examined the tumor later I found that I had left only a part of the isthmus and had taken out both lobes. It must have originated in the isthmus and incorporated both lobes. Further to my surprise, I found that I had removed two para-thyroids with this tumor. We must, therefore, conclude that only one good para-thyroid, if any, was left. So far, no symptoms of tetany or myxedema have developed, but there is a good chance for either or both to present themselves.

The specimen is unique. It involved both lobes and the parathyroids, and the parathyroids were all inside the goiter, which is a very unusual condition.

DISCUSSION.

Wm. Bailey: I would like for Dr. Wathen to tell us in closing whether, in view of the fact that only one parathyroid is left in this case, he will administer thyroid extracts, etc., before there is any evidence of thyroid intoxication.

J. R. Wathen (Closing): Answering Dr. Bailey's question, I would prefer to wait until symptoms have developed before giving thyroid extract. We have thyroid extract on the market to-day the same as quinin. If we remove all of the thyroid gland and the isthmus, or if the part left has degenerated so that it will not furnish sufficient secretion, these patients will get along very nicely on one tablet a week.

We know very little in regard to the parathyroids. The cases reported by Billroth all died in great agony and with peculiar symptoms, and the very sad cases that Dr. Halsted reported in his operations at Johns-Hopkins, all died. Dr. Chas. Mayo has never removed all the parathyroids and has never had a case of tetany from

that source. Some experimental work has been done in the Rockefeller Institute with the use of the calcium salts in these cases. As soon as evidences of tetany develop, calcium salts are given. In this case I hope that the one parathyroid that is left is good, and I would prefer to not give the patient anything until some outward symptoms develop. On a number of occasions I have removed one parathyroid, but I have never removed two and partially destroyed a third, with the possible chance of a fourth not being present. However, I do not fear the result, because as soon as I see evidences of tetany developing, I shall prescribe calcium salts.

(a) PIN SWALLOWED BY THREE-YEAR OLD CHILD AND PASSED THROUGH ALIMENTARY CANAL WITHOUT DAMAGE.

(b) SYMPTOMS SIMULATING INSANITY DUE TO INTESTINAL WORMS.

REPORTS OF CASES.

By C. H. HARRIS, LOUISVILLE.

Recently a baby, three years old, was brought to my office, with a history that it had swallowed a pin. The mother was very much excited and alarmed and could not describe the pin or tell anything about it. I simply told her to feed the baby mush and potatoes, and thirty-six hours later it passed the pin I show you here. I have at home a collection of things which have passed through the alimentary canal without doing any damage, but this is the only one I have seen of this character. I simply show it to illustrate what will pass through the alimentary canal without causing any trouble.

Another case which I have seen recently was a woman who was supposed to be insane. She seemed to be in a hysterical condition. I could not find anything the matter with her, physically, but upon examining the urine I found, in the sediment, four or five eggs of the *Ascaris Lumbricoides*.

Of course, the explanation was that these had come out of the bowel and had washed into the urine. I gave that woman santonin and she passed thirteen big worms, and immediately her symptoms cleared up.

DISCUSSION.

Henry Enos Tuley: The first case Dr. Harris reported is especially interesting. I remember, a number of years ago, seeing a patient with Dr. Cartledge, who had swallowed a medium size safety pin, open. We waited four days for it to pass, and then had an X-ray photograph taken which showed the location of the pin to be exactly over the stomach. It was thought that it would be best to do a gastrostomy and remove

it, but the mother demurred, and we decided to wait a little while longer. Twenty-four hours later the pin was passed, the spiral end of the pin coming out first. It measured 1 1-8 inches in length.

B. J. O'Connor: I happen to have seen the worms that Dr. Harris speaks of, and they were certainly very large.

In connection with the second case that he mentioned, I have a case which has been giving me a great deal of trouble in the past few days. Dr. Abell and Dr. Barbour both saw the case with me, and we have not yet been able to determine the exact nature of the trouble. The first symptoms noticed were a mass in what I took to be the colon, with an unusual degree of abdominal pain, but without any distinct rigidity of the muscles. The bowels were more or less obstructed, but gas was passed as well as some little feces. She was given a good many enemata and the next morning the tenderness was located more over the appendix, but without any distinct symptoms of an appendicitis. Yesterday the patient showed some little rheumatic symptoms in both limbs, and to-day both arms are similarly affected. The temperature has never been above 100; the pulse was at one time as high as 130. This morning the pulse rate was very low. We have thought over every possible cause for these symptoms, but, so far, have been at a loss to explain them. This morning the mother suggested the possibility of the child having swallowed a pin, as she is very fond of putting such things into her mouth. The case does not resemble Meckel's diverticulum, or intestinal obstruction. The cause of the symptoms is still a mystery, but possibly we will find out later.

Curran Pope: Referring to the last case Dr. Harris reported, it seems to me that this is a very valuable lesson to all of us, in that we must not conclude that, simply because a patient has psychic manifestations or cerebral symptoms, they are necessarily suffering from some form of mental disease. Mental symptoms may arise from many bodily conditions—from bodily toxemia, bodily irritation, etc. We know that hysterical convulsions, and all the other various manifestations of an hysterical condition, are due to hidden psychic plexes, and that these can frequently be traced back to trauma arising either in or out of the body. Therefore, we should be very careful to differentiate, because these are cases where prompt and active intervention means a cure, and a diagnosis of insanity is a very serious one to make indeed; in fact, a great many cases so diagnosed are in reality not insane, and there is no doubt that many cases have been sent to institutions for treatment that have not been cases of mental trouble. Dr. Harris' case exemplifies very clearly the necessity for differentiation, particularly where we have to deal with cerebral or mental symptoms.

ANOTHER LOCAL ANESTHETIC.

BY ALBRO L. PARSONS, LOUISVILLE.

Dr. Hloy, of Wellston, O., (J. A. M. A., May 14, 1910.) states that he has used quinin solution as a topical application for its anesthetic effect. Although he first instituted this treatment fifteen years ago, he gives credit to Dr. Fm. Sylvester, of Ohio, for having used the drug for this same purpose since 1888.

Dr. Griswold, of Fredonia, N. Y., reports in the Buffalo Medical Journal, August, 1896, the use of quinin solution hypodermatically as a local anesthetic.

In 1907, Thibault, of Scott, Ark., (Journal Ark. Med. Soc., Sept. 1907) noted the anesthetic effect of quinin and area hydrochloride when injected under the skin. Under its influence he did small amputations, removed fatty tumors, and did several rectal operations. He also recognized its anesthetic effect by contact with mucous membrane or raw surfaces when used in a 15 per cent. solution. Among its advantages he mentions the durability of the anesthetic, (one to six hours), its safety, and the fact that it can be boiled and kept indefinitely.

Brown, of Minneapolis, (Jour. A. M. A., 8-8-08) did a number of tonsillectomies under injections of a 3 per cent. solution of quinin hydrochloride, first swabbing the surface with holocaine. He even removed adenoids under this anesthesia besides submucous resections of the septum, etc.

In the Journal of the A. M. A., 10-23-09, Hertzler, Brewster and Rogers call attention to the anesthetic properties of a 1 per cent. solution of quinin and urea hydrochloride. They report a number of cases, including gall-bladder drainage, appendectomies, etc., besides the operations ordinarily done under cocaine. They claim that the benumbing effects last from five to fourteen days. A 1 per cent. solution is said to cause an induration, due to a deposit of fibrin, which delays primary union. This objection is overcome by using a 1-4 of 1 per cent. solution of the drugs in normal saline. The anesthetic properties of the weaker solution are perfectly satisfactory, but the addition of the saline lessens the period of anesthesia. They recommend a 10 to 20 per cent. solution for contact anesthesia as an injection preliminary to cystoscopic work.

The only explanation of this action of the drugs under discussion is that of McCampbell (J. A. M. A., 3-16-07) arrived at by animal experimentation. He found that quinin hydrochloride used hypodermatically caused a coagulation of the protoplasm of the peripheral nerves, and this induced a tempo-

rary paralysis. Just why the urea is added, I do not know, as the anesthesia of quinin, by injection and contact, is fully established.

I have used the 1 per cent. solution (not saline) of quinin and urea hydrochloride in the following cases. Being a little skeptical, I tried it on my own arm first. One-half a drachm injected under the skin (not into it, as with cocaine) produced stinging pain lasting thirty seconds, when anesthesia was complete. Incision down to the superficial fascia was painless, the zone of anesthesia being about one inch in all directions. At the end of twelve hours, sensation had partially returned. It was three days before it was completely restored. No induration or soreness resulted and the wound healed *per primam*.

Case I.—Aaron B., suppurating gumma over sternum, discharging through a 4-inch sinus. The tissues over the tract were injected with one dram of this solution; anesthesia complete. Tract laid open with scissors, painlessly. Profuse hemorrhage from sides of wound, thus not agreeing with Hertzler, Brewster and Rogers, who maintain that the deposit of fibrin, pressing on the vessels, prevents bleeding. Result referred to later.

Case II.—James S., broken-down axillary gland lying deep enough to allow infiltration of the superficial tissues. Half a dram of solution injected and the gland incised painlessly.

Case III.—Mr. R., inflamed wart on ulna side of left wrist. Owing to the constant irritation of his cuff, I advised excision. One dram of the solution was injected around the wart. Elliptical incision painless. On dissecting up the tumor base, my knife touched the superficial fascia, and the patient complained of pain at this one stroke. The wound bled freely. I expected primary union here, but the edges remained red and hard for four weeks, showing no inclination to heal, although no infection was evident. I believe that if 0.25 per cent. solution, made with normal saline had been used here, the wound would have healed by first intention. No anesthesia was noted after twelve hours.

Case IV.—George B., bullet on the inside of posterior fold of left axilla. Half a drachm of the solution was injected and the bullet removed painlessly. As it had been *in situ* for one year, it had become encysted, but the division of the cyst wall caused no discomfort. The wound was packed and healed readily.

Case V.—Nellie M., through the courtesy of Dr. Dugan. Dermoid cyst of twelve years standing under the angle of the right jaw. The tissues surrounding the cyst were injected with the solution, one drachm being used. The dissection of the cyst was painless

with the exception of one point, where it was adherent to the fascia over the sterno-mastoid muscle, when she said it hurt "a little." The solution had not touched this point. The wound healed *per primam*, except slight infection at the lower angle which persisted ten days.

Case VI.—Mr. M. R., a neurasthenic. His only symptoms were subjective pain along the course of the sciatic nerve, with hyperesthesia of overlying skin; no nerve tenderness. A subcutaneous injection of the solution at the point of pain, relieved him. On account of the large nervous element in this case, I am loath to give full credit to the therapeutic properties of the injection; however, the patient is loud in his praise of the drug as a relief for his trouble. I have now afforded him such relief four times.

Case VII.—Aaron B., (same as Case I.)—The incision into the suppurating gumma healed readily, except at one point where the discharge continued. Investigation revealed a second sinus leading off to one side. The overlying tissues were injected with one drachm of the solution and a tortuous tract laid open, leading down to an area of necrosis in the sternum. When the scissors touched the bone the patient complained of pain. This part of the field had not come in contact with the solution, and was the only painful point. The wound packed and now healing kindly.

Case VIII.—Henry G., sebaceous cyst of scalp. One drachm of the solution injected around and beneath the tumor, which was then enucleated without pain. The wound packed and is healing. Anesthesia persisted twenty-four hours afterward.

Dr. Thibault reports a case, in the J. A. M. A., 4-23-10,) of strangulated hernia operated on by this means. Anesthesia was satisfactory under the 0.25 per cent. solution, in saline, until the peritoneum was reached. This tissue being painful, two drachms of the solution was poured into the canal. Very shortly the peritoneum was incised without discomfort and the operation completed. Much of the solution entered the peritoneal cavity without so much as causing that membrane to become injected.

Conclusions based on so few cases are treacherous, but the following are tentatively drawn from the literature available and my own limited experience.

It is non-toxic, 100 grains having been used intravenously (Brewster). I have not found that it acts as a haemostatic, nor has the anesthesia lasted as long as I was led to believe, although this latter, I have not been able to watch as closely as I should have liked. I believe, with Dr. Hertzler that, when

primary union is expected, a solution weaker than 1 per cent. should be used; otherwise, I believe it matters little.

In the New York Polyclinic Journal, January, 1908, Dr. Wyeth, of New York, has an article entitled "A New Local Anesthetic of Great Value." As I have been unable to procure the original article, I can only quote from an abstract. He referred to quinin and urea used hypodermatically, but in what strength, I do not know. After two severe sloughs from deep infiltrations, he abandoned its use. We cannot help but wonder whether such sloughs would have followed the use of weak saline solutions recommended by Hertzler.

Of its use in nasal operations, I know nothing, but attention has been called to Fulton's article (J. A. M. A., 7-30-04) in which quinin is recommended for its local effect in hay-fever. The 1 per cent. solution is particularly recommended by Hertzler for hemorrhoids and fistula operations, claiming that the healing is complete before sensation returns, and that defecation causes no pain.

In closing, I must beg the indulgence of the Society for having referred so often to the work of others, but this anesthetic being still in the pioneer stage, I thought these earlier reports might possibly have been overlooked by some, and I therefore, have ventured to quote freely from their articles.

MEDICAL PROGRESS

DEPARTMENT OF GYNECOLOGY AND ABDOMINAL SURGERY.

BY CHAS. W. HIBBITT, LOUISVILLE.

I.

DELAYED MENOPAUSE.

Dr. A. E. Gallant (*New York Medical Journal*, June, 1910,) concludes that the menopause in women with hearty reproductive organs should be established abruptly at an age dependent upon the age when menstruation first began; early if begun late, late if begun early.

The menopause is delayed when there is present flexion, version, fixation, neoplasm, tubal disease or syphilis. The dangers are due to delay, as: (1), the patient failing to consult a physician, refusing examination, or refusing operation; (2), the physician delays examination, fails to make diagnosis, and fails to impress upon the patient the importance of early operation.

The danger signals in delayed menopause are: (a), atypical menstruation; (b), leucorrhea; (c), malodorous discharge, and (d) pain; which, if disregarded, lead to death.

The large number of incurable cases of carcinoma uteri, degenerated fibroids, malignant ovarian and broad ligament cystoma, even in early life, warn us to instruct mothers to teach their daughters the *dangers of delay* whenever they suffer from dysmenorrhea, menorrhagia, metorrhagia, leucorrhea, abdominal tumors, etc., especially after they have passed the approximate age.

II.

LAPAROTOMY.

Dr. Ralph Waldo (*International Journal of Surgery*, July, 1910). The abdomen should not be opened in a room the temperature of which is lower than 75 to 80° F. The normal temperature of the cavity is at least 100° F., while the temperature of the blood leaving the liver during the active stage of congestion is usually 103° F. It is best for the temperature of the room to be warm and the air, at the same time fresh. The patients stand operation better where the temperature of the room is high and the windows all open.

He continues by saying that another reason for having the air in the operating room charged with moisture is to prevent, as far as possible, the falling of dust around the field of operation, for dust carried into the wound is the cause of an occasional case of tetanus which sometimes occurs after otherwise clean surgery. I am convinced that dust is the greatest enemy we have, and that plenty of moisture in the operating room is one of the best ways to counteract the effect of the dust, which is one medium of conveying tetanus germs.

III.

LACERATIONS OF THE CERVIX AND PERINEUM.

Dr. D. D. DeNeen, (*Lancet-Clinic*, August 27, 1910) concludes that, in lacerations which are very bad, operation is best, palliative treatment is only a makeshift at best. A tender cicatrix should be dissected and the parts united. If the sphincter ani is torn, it should be repaired, which applies also to the levator ani. Never lose sight of the fact that the levator ani is the main muscle in the pelvic floor. It does not matter so much what operation is performed as it does whether or not the levator ani is repaired. The Emmett operation has been very popular and is now. We now have the Hagar flap-splitting operation and other modifications. I like the flap-splitting operation where the tears are not in the sulcus or sulci. In the latter a flap-splitting Emmett, or the Emmett, is satisfactory. Rest in bed for two or three weeks, with hot sterile douches, is good treatment.

Catgut and chromocised catgut for buried sutures are used. One advantage of inter-

rupted sutures is that if one breaks you have others to do the work, while in the continuous sutures if one breaks your repair will not be so perfect. If silkworm gut is used, shot on the ends of these sutures will prevent them from making the patient uncomfortable by sticking. Loose tying of stay sutures is important.

Lateral tears are either unilateral or bilateral, and are usually associated with superficial median tears. These are the variety which do damage to the levator ani, because uterine subinvolution, due to the cervical tears, is often added to this. There is a tipping backward of the fundus of the uterus, and in time the uterus, bladder, urethra and vagina may become prolapsed. If operation is too long delayed, the levator ani as well as the other muscles, atrophy from non-use, and post-operative results cannot be expected to be as good. Rectocele also develops. This condition may be masked when an examination is made, due to excitement and muscle contraction. The finger introduced into the rectum and pressed forward into the vagina is a good way to tell the thickness of the perineal body.

IV.

REST IN BED AFTER GYNECOLOGICAL OPERATIONS AND THROMBOSIS.

"Dr. Hoehne (*Monatssch. f. Geburtsh. u. Gynak.*, Bd. 30, Hft. 5, 1910) makes the statement, based upon his experience in the gynecological clinic of Kiel, that patients allowed to get out of bed early after gynecological operations, recover more rapidly. According to results of observations upon one hundred operated cases, early rising does not appear to prevent the occurrence of thrombosis, this having occurred in the femoral in three instances. It would also seem that there is no reliable method of prophylaxis against thrombosis and embolism in puerpera. In cases in which there is a marked increase in the coagulability of the blood, as determined by the method of Wright, it might be possible to prevent thrombosis by the administration of drugs which have a tendency to reduce coagulability. If, however, the condition progresses, the question of ligation of the affected veins demands consideration, while, if embolism occurs, the only practical means of its removal is by the method proposed by Trendelenburg."

V.

THE LATER RESULTS OF OVARIOTOMY.

"Hefmeier (*Surg., Gyn., and Obs.*) carefully discussed the later results of ovariectomy, giving each pathological condition careful consideration. He believes that fully 5 per cent. of ovarian carcinomas are secondary. He has operated on 59 cases of the

ovary, in 43 of which but one ovary was involved. In 22 of the latter the affected ovary only was removed. The first of these is living, eighteen years after the operation. She bore a child one year after the operation and is now 45 years of age. While Hofmeier believes that operation should be performed in all cases in which removal seems possible, yet in unilateral involvement he recommends leaving the second ovary in young women. If both ovaries are involved, and then only, is removal of the uterus recommended."

VI.

THE SUBINVOLUTED UTERUS.

"R. R. Smith (*ASurg., Gyn., and Obs.*) reports his study of the changes in the uterus occurring in subinvolution of that organ. This study is extended into the treatment of that condition, which included various plastic operations, the employment of drugs, and waiting for the menopause to produce atrophy. Smith believes there is a class of cases that cannot be successfully treated by such measures; in fact, only removal of the body or the whole of the uterus will suffice. He records 23 cases thus treated successfully. In 9 the blood loss at or between menstrual periods, was very serious; in 9 there was great pelvic discomfort; retroversion and prolapse were present in 7. The principal reasons for hysterectomy were long continuance of the symptoms, severe loss of blood, the non-relief by simple procedures, the age of the patient and the size and condition of the uterus."

VII.

THE CHOICE OF OPERATIONS FOR RETRO-DISPLACEMENTS OF THE UTERUS.

"Benjamin (*Jour. Amer. Med. As'sn., lvi*, 1072) says: Retro-displacements of the uterus often cause much discomfort. The harmonious action of all the supports is essential to the uterus for its normal position. The operation which interferes with the laws governing the normally placed uterus is not to be advocated. The operation which produces unnecessary abdominal traumatism should not be chosen in the ordinary case. Operations which could possibly interfere with the enlargement of the uterus during pregnancy should be used in selected cases only. Operations which leave an additional suture line within the abdomen may cause subsequent trouble. Operations which do not give as strong a support as possible consistent with the normal functions of the uterus may result in failure in some cases. The operation which utilizes the normal ligaments with little traumatism is less troublesome and more scientific. Benjamin then describes his modification of Gillian's operation for shortening the round ligaments and gives the advantages of it."

VIII.

IS THE ROUTINE EXHIBITION OF THE PRE-OPERATIVE PURGE DEFENSIBLE?

"Walker (*Amer. Jour. Obst., Jan. 1910.*) discusses the subject of routine employment of purgatives in the preparation of patients for operation, and concludes that the practice is pernicious; that purgatives can do harm and should only be given when the indications are clear. The profession should abandon the slipshod, routine methods now in vogue, and should teach the laity, both by precept and example, the evils of the purgative habit. The practice of purging all patients before operation is unnecessary and injurious; they are made more uncomfortable, are weakened, and the condition of the intestinal canal is not rendered more favorable; but, on the contrary, germ activity is stimulated, just as it is in enetritis, increasing the probability of infection when the gut is opened, and in addition to this, there is more post-operative tympany. A diet of digestible food for 24 hours or more, and a fast of 8 or 12 hours before, puts the intestine in the best possible condition for any operation, especially on the intestinal canal, except where obstructive lesions exist, and for these purgatives are worse than useless, and other measures are required. In a few cases of milder fecal stasis, a purgative a few days before operation, followed by enemas, are of service; these are, however, extremely rare. The routine use of any powerful drug is to be deplored, and the habitual pre-operative purge is indefensible.

IX.

HOT AND COLD IRRIGATION IN GYNECOLOGY.

"(*Le irrigazioni vaginali calde e fredde nella pratica ginecologia.*) Editorial Review by Dr. Rebaudi. *La Ginecologia Moderna*, September, 1909.)

1. Cold vaginal irrigations, the temperature of the water being 70° F. gradually cooled to 60° F. These are efficacious in metorrhagia.

2. Hot vaginal irrigations, using 40 to 50 quarts of hot water per treatment, followed by hot perigastric irrigations.

3. In cases of pelvic cellulitis, ovaritis, or salpingitis, better results are obtained when the irrigation is effected through the rectum. The temperature of the solution should be from 120-130° F. This solution is allowed to flow into the rectum very slowly and patient is requested to retain same for half an hour.

The following advantages are claimed for this method:

1. Increased local blood supply.
2. Removal of inflammatory tissues (via the hyperactive lymphatics).
3. Contraction of muscle fibers tending to loosen adhesions."

KENTUCKY MEDICAL JOURNAL.

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VOL. VIII. 

BOWLING GREEN, KY., OCTOBER 15, 1910.

No. 19

EDITORIAL.

CHANGES AT LEXINGTON.

Our 1910 annual session at Lexington was an unqualified success in every way, with a registered attendance of our own members of 503, with 31 visitors from other State Associations, and a large number of exhibitors. This was much the largest meeting we have ever held outside of Louisville, and is far the largest meeting any State Association has held in a city smaller than Louisville.

From a scientific standpoint—particularly as regards the great problems of State Medicine—the program will pass down as a noteworthy one. The papers and addresses of Drs. Wilbur, Billings, Hancock, Pope, McCormack and Hanson will be read with especial interest by publicists, while every reader of the JOURNAL has a feast awaiting him in the practical papers covering many of the most interesting of modern advances.

From a business standpoint the most far-reaching change is the raising of the assessment of each member of the State Association to \$2.50, the additional half dollar to be used to create a fund of one thousand dollars annually for the maintenance of a Medico-Legal Committee, which *shall defend every member of the Association against any and all unjust malpractice suits.* This change was adopted after full discussion by delegates from practically every county. The Committee on Medical Reform which has done such good service under the complicated plan adopted at Winchester unanimously recommended the change, and it was unanimously adopted by the House of Delegates. Dr. John J. Moren, of Louisville, was selected as chairman of the Medico-Legal Committee by the Council, and the other two members are the secretary and treasurer. Under the new plan, for an additional *fifty cents a year*, every unjust

malpractice suit will be defended through any and all courts for every member in good standing in the Association. When it is considered that the insurance companies charge *thirty times as much* for a far inferior service, we feel sure that the change will meet with the universal approval of our membership. Be sure to read the entire discussion in this issue.

Another most important report was that of the Committee on Division of Fees. There has been abundant evidence that this evil practice has been growing for the past several years. It is high time that it be stopped.

ELMENDORF.

Those present will never forget the unique entertainment given by Mr. and Mrs. James B. Haggin, assisted by Mr. and Mrs. Charles H. Berryman, at Elmendorf, for the entire membership of the State Association and their visitors. It was a triumph of modern sanitary science that a full dinner for seven hundred persons could be served in a dairy barn within three hours after milking of four hundred cows! These splendid stables are cleaner than most dining rooms and there is hardly a hotel in the state where as few flies will be found. All honor to Elmendorf and its great dairy!

OUR DEPENDENTS.

The masterly addresses of Drs. Billings and Pope on the "State Care of our Dependents," were illuminating. The discussion of Dr. Pope's paper was racy and exposed the full viciousness of the present system of control of our asylums. These will appear in the JOURNAL as soon as possible and it is hoped that they will arouse not only the profession, but the entire state to such positive action that we may boast that Kentucky is in the lead in this as in so many other matters. The

attitude of Col. Scott, Chairman of our Board of Control, is particularly to be commended. He takes the broadest views of his responsibilities and his opportunities and deserves the active support of every Kentuckian in and out of the legislature.

THE COUNTY SECRETARIES.

The Council directs us to inform all County Secretaries that all *new* members paying the annual dues of \$2.50 now will be received as full members for 1911, and will receive the JOURNAL for the remaining months of 1910. With this ammunition, which of course, includes medical defense of every member—old and new—against unjust malpractice suits, there should be no difficulty in securing all the non-members in most counties. It is well to call attention to the fact that all regular practitioners must also be recommended by their county societies to be eligible for reciprocity.

THE MEDICAL DEFENSE.

All of the old members of the Medical Defense Branch of the Kentucky State Medical Association will continue to be defended by the Medico-Legal Committee in case of unjust malpractice suits as long as they remain in good standing in their county societies and the State Association. As the membership of the Defense Branch will be co-extensive with the membership of the present body, the addition to the dues will be only fifty cents per member, making the total State dues \$2.50. For this each member will receive the JOURNAL twice each month, and will be defended against unjust malpractice suits.

OFFICIAL ANNOUNCEMENTS.

KENTUCKY STATE MEDICAL ASSOCIATION.

FIFTY-FIFTH ANNUAL SESSION, HELD AT LEXINGTON, SEPT. 26, 27, 28 AND 29, 1910.

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES.

Official Report of the Proceedings of the House of Delegates of the Fifty-Fifth Annual Meeting, held at Lexington, September 26, 27, 28 and 29, 1910.

SEPTEMBER 27—FIRST SESSION.

The House of Delegates met at 1:30 P. M. in the Y. M. C. A. Building, and was called to order by the President, I. A. Shirley, of Winchester.

The Secretary called the roll, and forty-eight responded.

The President: The next order is the minutes of the meeting of 1909.

W. B. McClure: I move that the reading of the minutes of 1909 be dispensed with, inasmuch as they have already been published in the KENTUCKY MEDICAL JOURNAL, and doubtless read by the members.

Seconded and carried.

The Secretary read the report of the Council, which was published in the KENTUCKY MEDICAL JOURNAL September 15, 1910, page 1838, and which was referred to the Committee on Report of Council.

The President: The next thing in order is the report of the Secretary.

The Secretary-editor read his report, which was published in the KENTUCKY MEDICAL JOURNAL September 15, 1910, page 1850, and was referred to the Committee on Reports of Officers other than Councilors.

At this juncture Mr. Samuel Ely Eliot, Secretary Committee on Prevention of Blindness, of the Russell Sage Foundation, New York City, was accorded the privileges of the floor on motion of the Secretary.

Mr. Eliot said: Mr. President and members of the Kentucky State Medical Association: Kentucky is famous for many things, but for none more than its hospitality. I appreciate your courtesy in inviting one who though not a stranger, is yet both from outside your state and a layman. I have tried to show my appreciation of your invitation by sparing my presence from an office that needs me badly just at this time, and making a flying trip out from New York, giving myself barely time to tell you what I have come to say to you, to shake you by the hand, and hurry back again.

I come to you as a representative of the national movement for prevention of blindness. This is a co-operative movement on the part of the medical profession and the laity, its objects being to conduct a national campaign for the prevention of blindness by investigating the causes of blindness, by obtaining useful legislation, and by disseminating information through publication, exhibits, addresses and correspondence. Without the medical knowledge and moral support of physicians this movement could not exist. Without the sociological knowledge and philanthropic spirit that generosity of the laity it could not be broad and popular. The physician furnishes the knowledge of the actual treatment and care of the individual cases of eye disease or distress. The lay-worker, first, investigates social conditions causing eye disease and distress. Second, he goes about to educate the public in the matter of elimin-

ating or improving bad conditions. His time is also freer for efforts after legislation.

Until May of last year this movement existed in organized form in four states, namely, New York, Massachusetts, Maryland, and your northern neighbor, Ohio. The chief cause of blindness which has been dealt with thus far is babies' sore eyes or *ophthalmia neonatorum*. I do not want to take up your time with details of the growth of this movement. Accordingly, I have brought with me ninety-eight copies of bulletin number one of the Russell Sage Foundation, which gives an excellent brief account of the work as far as it has progressed until May of this year. Copies of this brief bulletin are for sale at five cents each by the Kentucky Society for the Prevention of Blindness.

Since May three states, namely, Kentucky, Missouri, and Arkansas, have been brought into the movement. I have also had sent here for this convention the exhibit of the New York Committee on Prevention of Blindness. This exhibit is hung where all can have opportunity to study it at their leisure.

Now, I have come here expressly to do just one thing, and that is, in the name of the National Movement for the Prevention of Blindness to ask all of you physicians of Kentucky, but more especially the general practitioners, the ophthalmists, the obstetricians, and the health officers, to take upon themselves, according as you have opportunity and power the utmost responsibility for the preservation of eyesight among the children and citizens of this commonwealth.

There are, of course, numerous ways in which you can do this; nor does it matter so much how you do it as long as you do it. But there is one practical way that is open to you all, namely, wherever opportunity offers, to co-operate with the Kentucky Society for the Prevention of Blindness in the noble work which it has inaugurated in the last three months.

That Society proposes to cope with three causes for blindness or eye distress, namely, strain of the eyes of school children due to bad printing of school books, bad lighting of the school rooms, and lack of attention to minor eye defects; trachoma, which exists to such a great extent among the mountaineers in your state, and the sore eyes of babies.

In tackling these three causes they are adopting, or are planning soon to adopt, two methods: (1) Investigation. They aim to investigate the prevalence of trachoma in one of the mountain counties known to be infected. The State Board of Health has already appropriated one hundred dollars for the purposes of this investigation, and it will be undertaken as soon as possible. (2) Publicity, first by the publication of leaflets an-

nouncing the general purposes of the society and soliciting co-operation and funds for the same. (3) Pamphlets have been published which can be had on request. These are addressed to the general public and contain warnings and information regarding the causes of blindness. (4) Addresses to teachers. (5) Addresses to the medical profession. (6) Discussion at conferences of social workers. I believe that the charity workers at their meeting in Louisville on November seventeenth will discuss the prevention of blindness. (7) By the institution of a boiler-plate exchange for the newspapers, not only of this state, but of the other states that have organized for the prevention of blindness work. (8) Legislation. Already Kentucky has laws affecting the control of *ophthalmia neonatorum*. Doubtless the Kentucky Society can add to the weight of these laws by watching that they are strictly enforced. (9) Co-operation. This method has not been actually adopted, but promises great usefulness along two possible lines. In the first place, the prevention of blindness society can advocate strongly medical inspection in the public schools, a practice which I understand has only an unofficial status as yet in some quarters. In the second place, regarding the stamping out of trachoma, by supporting, so far as possible, any movement toward the founding of hospitals in the mountain regions. Such a movement has in fact already been started. Dr. McConville, a lady physician of Brooklyn, New York, became so interested in the suffering among the mountaineers, that she has started single-handed, an effort to raise ten thousand dollars with which to build a hospital at Oneida, Clay county. Such a hospital, I understand, would have to serve the needs of eighty thousand people living in several adjoining counties. The nearest hospital to Oneida is fifteen miles away over a road so rough that one must dismount from horseback at places on account of the roughness. In such a hospital a ward for the treatment of eye diseases and especially of trachoma, would be established. Indeed, it was through observation of the number of cases of trachoma in the mountains that Dr. McConville first became interested in founding a hospital. Here, then, is an excellent opportunity for co-operation.

In conclusion, I want to tell you that we in the East are watching the prevention of blindness movement here in Kentucky with the greatest possible interest and sympathy. We want to see this movement succeed as much as you do.

It would not be proper to close without a word of highest commendation for the indefatigable and able work which Miss Neville is doing, not only as secretary of the Kentucky

Society, but as an individual in connection with mountain fund work for the relief of mountaineers. Kentucky is indeed fortunate in the possession of a woman so devoted, so noble, and so untiring in her efforts for good along the lines she has mapped out for herself. Again, let me commend to you the Kentucky Society for the Prevention of Blindness, and let me thank you for your courteous hospitality. I hope that I may have the pleasure of being with you again on some future occasion. (Applause.)

If it be in order, I would like to present, with the permission of the House of Delegates, the following resolution:

Whereas, A large percentage of the blindness and eye disablement in Kentucky is due to trachoma and ophthalmia neonatorum; and

Whereas, Both these forms of eye disability are almost absolutely preventable; be it

RESOLVED, That the House of Delegates of the Kentucky State Medical Association endorsed the co-operative medical and lay movement in this state which is being undertaken by the Kentucky Society for the Prevention of Blindness. (Referred to the Committee on Ophthalmia Neonatorum.)

The Secretary: At a recent meeting of the State Board of Health, when this subject was introduced and discussed with reference to the prevention of blindness, the movement was endorsed in the strongest terms, but it was insisted that other terms than *ophthalmia neonatorum* be used; for instance, the statement that blindness in babies is ordinarily caused by the common filth disease known as clap or gonorrhea. By using these terms the lay public would know exactly what is meant. When we talk about *ophthalmia neonatorum* the average man does not know what it means, but since adopting a change in the circulars gotten up by the committee of this society on the prevention of *ophthalmia neonatorum*, and making it read the prevention of blindness in babies, using the common expressions, this literature has had far greater effect, and we get hundreds of requests for these circulars now from laymen where formerly we got practically none.

The question of trachoma in Kentucky is one of the largest and most important ones that sanitarians or therapeutists have to handle, and when this disease takes hold of the people in the mountain country it stays forever, and it is only by beginning with the comparatively few cases that exist that we can ever hope to accomplish much.

I. S. Manning, Manchester: The amount of suffering from trachoma is considerable, it is true, in the mountains of Kentucky. I have practiced medicine more or less for

thirty or forty years—I do not want to say just how long, and yet I have seen but a few cases of blindness from *ophthalmia neonatorum*. I have seen perhaps two or three cases in the County of Clay that I recall. Still occasionally such an unfortunate accident happens.

W. B. McClure presented his report as Treasurer. (For report see KENTUCKY MEDICAL JOURNAL, September 15, 1910.)

The report was referred to the Reference Committee on Reports of Officers other than Councilors.

L. H. South presented her report as business manager. (See KENTUCKY MEDICAL JOURNAL, September 15, 1910.)

The Secretary: We have with us Mr. President, Dr. E. W. Weis, of Illinois, who is compelled to return home this evening I move that Dr. Weis be elected a guest of the Association. He is Secretary of the Illinois State Medical Association and President of the Association of State Secretaries and Editors, and is a distinguished medical authority on medical defense, and has kindly consented to read a paper before the House of Delegates on general principles underlying medical defense, a subject which is of enormous importance to us all, and I move that we hear his paper at this time.

Seconded and carried.

Dr. Weis then read a paper entitled "Medical Defense Feature of Medical Society Work."

The Secretary read an extract from an editorial in the KENTUCKY MEDICAL JOURNAL, September 15, 1910, in the absence of the Chairman of the Medical Defense Branch, calling attention to the actual working of that branch during the year as being of special interest following the masterly handling of the subject by Dr. Weis.

REPORT OF COUNCILOR OF THE FIRST DISTRICT.

W. W. Richmonds: In reporting the condition of medical organizations in the first district of the State Medical Society, the councilor would state that there has been a shortage of eighteen members as compared with the report of last year. Notwithstanding this falling off in membership, the county societies in the main are in a growing and healthy condition and alive to the work. This delinquency has not been due altogether to a want of interest upon the part of the membership, because the interest in medical society work in most of the counties has been fully maintained and has grown rapidly in some of the counties beyond expectation.

The loss in membership may be accounted for in several ways: a number have left the district, a few have died, and

a few have retired from practice. There are a few good doctors who are on the delinquent list purely on account of indifference and lack of energy—doctors who have been converted through the power and influence of the gospel of medical organization, but who have never been inspired to the work, need more of the operation of the spirit of professional pride and professional duty to move them. There is yet hope for this class. There is a class of doctors, who are first in and then out of the organization, according to the influence brought to bear upon them. These doctors will, one time, swell the membership, and at another time, deplete it so that very little reliance can be placed upon them for membership or society work. They are mostly of the middle aged or elder ones, neither brilliant nor prosperous, and not very much interested in the profession one way or another. I am proud to say there are only a few of this class in the first district.

Aside from these doctors who fall from grace from time to time there are a number in some of the counties, who absolutely refuse to belong. They have never been converted to the faith of medical organization and perhaps never will be. They stay at home and rarely leave except to the nearest post office and in these days of rural delivery they seldom do that.

I believe, however, that the membership in most counties is settling down to a normal standard both in membership and in excellence, and as the above mentioned class move away or die and the younger set come in (and I will say here, all young doctors join the county society,) time will be when all doctors will belong to the organization.

Notwithstanding this shortage of eighteen members this year, a great work has been wrought and carried on in the first district by the various county societies. The post-graduate course has been kept up in many of the counties with a rapidly growing interest, some societies holding weekly meetings. The open session has grown popular and many have been held, in which lawyers, ministers, teachers and club women have taken part with encouraging results. A great interest has been manifested by the people where these meetings have been held. There has been a strong tendency upon the part of the profession all over the district to teach the people upon the great question of sanitation and hygiene and upon the ways and means for the prevention of disease by both National and State Legislation. Speeches have been made at citizens' meetings, arranged for the purpose, at teachers' institutes, farmers' unions, women's clubs and in many of the schools of the district. So that it may be said that the

doctors in the first district are in line and doing good work. Therefore, we have reason to feel encouraged and as the importance of organization is pressed upon us and plans are perfected, year by year, does the dignity and majesty of our profession make its stately impression upon the tide of humanity.

It should be the recognized duty of the Councilor and every officer and every member of the county society to endeavor to awaken the indifferent and disinterested doctor to the incalculable benefits to be derived from medical organization, so that with individual strength we may put our best into the work of uplifting the profession. Nothing so ennobles a calling as an intricate and profound acquaintance with its depths. It forms a lasting power. Daniel Webster solemnly affirms: "It is the glorious prerogative of empire of professional knowledge that what it gains, it never loses; on the contrary, it increases by the multiple of its own power; all its attainments help to new conquests."

Then to maintain the county medical society in its highest state of excellence requires work, not only of the Councilor, but of every member of the organization.

"In every rank, or great or small,
'Tis industry supports us all."

REPORT OF COUNCILOR OF THE SECOND DISTRICT.

D. M. Griffith: I regret very much the necessity, in making this my 1910 Councilor Report, to be compelled for the first time in my Councilor work to report a decrease in the membership as compared with the preceding year: there being 244 members this year against 266 last year.

The falling off of four members in my own county of Daviess can be accounted for by the removal from the county of five doctors. At other points in the district it is simply impossible to persuade delinquent doctors to continue their membership.

REPORT OF COUNCILOR OF THIRD DISTRICT.

E. Rau: We have a falling off of members in the Third district. In the first few years of the existence of the organization we had a class of physicians who would come in as members for a year and then go out, so that the membership fluctuated from year to year. We believe we have the best men in our society from the districts. When we look for those who were members we find many of them have removed through reciprocity. There are many men still out who are eligible to membership in the different counties, but we have not a single doctor who is not a member of our own county society in Warren County. If it can be done by our county society it can be done in other counties. The Secretaries of the other county

societies need enthusiasm. I have not gone around the district as much as I should have done, although I have kept up correspondence. One point not given enough thought is the securing of attendance at meetings. If you can secure an attendance, you will have good membership. I am not disparaging the programs that may be got up or the work that it takes to prepare papers that will elicit discussions. But the principal thing is to get men to attend the meetings. If the JOURNAL could devote a few pages to the work of secretaries, so that these secretaries could express themselves as to how to get members, it would be interesting, and I am sure would be followed by good results.

REPORT OF THE COUNCILOR OF THE FOURTH DISTRICT.

C. Z. Aud: If each one of us can bring one thought to this meeting of value, we have done good work. One thought I wish to bring to you today is that we have been studying how to use our county secretaries, and I hope they will devise some means of using their councilors. In my district there is one county from which I received twelve invitations a year to be with them as their councilor. This county does not need me. There are other counties in my district from which I have not received an invitation to visit them in years. In those counties a dozen councilors are needed. I would extend an invitation to every secretary in the Fourth district to devise some means to use their councilor, if I am their councilor next year. I have delayed my work and waited for an invitation until I received a letter from Dr. McCormack which woke me up. This found me disabled for the work on account of an attack of hay fever. I believe the secretaries should use their councilors from the day this meeting adjourns until the next meeting of the Association. They should not wait for their councilors to come, but call on them when they need them in all kinds of difficulties. The councilor should not only try to increase the membership, but it is his duty to adjust differences and overcome difficulties, to get the members out of all kinds of trouble. A member in my community was in serious trouble this year and I succeeded in getting him out. I hope we will enlarge our work as councilors and be able to do much work next year and spend more money.

I wish to report for my own district that we are in a fairly good condition, and I want to say that I am really surprised that some of the secretaries cannot get more money out of their members. I woke up in my county and after finding there were very few paid up

members, I went to work with the aid of the telephone and without any trouble I got every member into the state society except one.

There is another matter I am taking considerable interest in, and that is to insist on doctors, if they carry medicines, to carry only those that are recommended by the Council on Pharmacy and Chemistry of the American Medical Association, and to prescribe those medicines.

I think as councilors we should pay more attention to the Medical Defense Branch. I believe all of us ought to be in this branch. There are in my district 179 doctors, and fifty-nine non-members. Of the latter there are a number who are superannuated, and some ineligible.

REPORT OF COUNCILOR OF THE FIFTH DISTRICT.

B. F. Zimmerman: The councilor of the Fifth district begs leave to report, for the first time in five years, a complete organization in every county in the district. Since 1905 Spencer County has had no organization until April of this year, when the society was reorganized with a membership of eight. I understand from members of the society that meetings have not been held regularly, and that probably further effort will be necessary to get a good working society in that county.

Gallatin is the only other county in the district which does not have a good working organization. The membership of this society is seven. The members of the society have assured me that it is on account of the small number of physicians in the county that they do not have a more effective organization. The other counties in the district have regular meetings, and most of them are doing good work. Trimble County has held a number of open meetings during the year, according to the advice of the American Medical Association, that efforts should be made to educate the laity in matters concerning public health, prevention of disease. The successful open meetings held in Trimble County are due to the untiring efforts of the officers of this organization, especially L. G. Contri, the secretary of the society. The councilor, together with Drs Hibbitt and Simpson, attempted to attend one of these open meetings early in the spring, but were prevented from arriving at their destination on account of high winds, the river being in such condition that they could not cross from Madison, Indiana, to Milton, Kentucky, where the meeting was held. On July 20, the councilor attended an open meeting and addressed the assembly upon the prevention of disease.

Outside of the County of Jefferson, there has been an increase in the total membership of the district by 12. In the County of Jef-

person there has been a decrease of 97, at the present time. This is not due to any defect in the organization, or lack of enthusiasm on the part of the profession in Louisville and Jefferson county. Certain financial obligations with the society had incurred a necessitated an increase in the annual dues from five dollars to twelve dollars, and this increase has resulted in a diminution of the membership. We hope next year to be able to so adjust this matter as to bring our membership up to the highest possible point.

The councilor also wishes to call attention to the fact that Spencer is not credited with a delegate in the Secretary's report in the September 15th issue of the JOURNAL. This is, no doubt, an oversight, or a clerical error, and the councilor will request that a delegate be immediately credited, and that the officers of the Spencer County Society be advised of the mistake.

In Jefferson County, the committee appointed to secure advertising, of which Virgil E. Simpson is Chairman, has about completed the raising of the desired amount of advertising to carry the Jefferson County number of the JOURNAL for another year. No little praise is due Dr. Simpson and those who have worked so faithfully with him for their untiring efforts in behalf of the mid-month issue. The magnitude of the work being done by the Jefferson County Society is best attested by the fact that the mid-month issue of the JOURNAL is not large enough to carry all the scientific matter embodied in the transactions of this society. This matter, we hope, can be satisfactorily adjusted so that the entire proceedings of the society may be published with a promptness which has been hitherto impossible.

REPORT OF THE COUNCILOR OF THE SIXTH DISTRICT.

R. C. McChord: My district is composed of seven counties, namely, Adair, Boyle, Green, Marion, Mercer, Taylor and Washington. Adair has twenty-one physicians of whom ten are members of the county society, and the others are eligible to membership. This county has a very efficient secretary; but recently he informed me he had lost his grit. Boyle has 22 physicians, and 21 members of the society, and one ineligible. Green has eight physicians, and six members of the society, leaving two ineligible on account of non-payment of dues. Marion has 21 physicians, of whom 18 are members of the society, leaving three non-members. Of the non-members two have retired from practice. During the year two have died, and one has removed to another state. Two have joined the society. Mer-

cer has 27 physicians, of whom 19 are members of the society. Taylor has 13 physicians, all eligible to membership. Of this number, eleven are members of the society. Washington has 13 physicians, and all eligible to membership. Of this number, nine are members of the society. One has removed to another county, and two have been dropped for nonpayment of dues.

To summarize, there are in my district 126 physicians, and of this number 94 are members of their county societies, leaving 32 non-members, many of whom have retired from practice by reason of age. The Secretaries of these societies are efficient and capable men.

REPORT OF THE COUNCILOR OF THE SEVENTH DISTRICT.

L. T. Hammonds: I beg leave to submit the following report from the Seventh district: Owing to the lack of time, I have been unable to visit most of the county societies in my district. I am sorry to report a loss of some members from the seventh district, due in some respects to dissatisfaction with the organization, and some to the action of the State Board of Health in certain cases. Clinton comes forward with a gain of two members. She has a membership of eight, with only one non-member. She is doing some good work. Casey has lost five members. One of this number retired from practice on account of old age, and ill health. Our society has only met twice in this year; but few take any interest in society work. Two doctors moved into the county, but have not united with the society. We only have nine members.

Garrard comes forward with every legally qualified doctor as a member of the society, and the two that are not qualified to practice are indicted. This is due to the untiring energy of the secretary, J. B. Kinnaird. I have been unable to get any report from the County of Lincoln, notwithstanding that I have sent self-addressed and stamped envelopes, but think this county has about the same number as last year, which is 17 members.

Pulaski has a good society, but has lost some members, some by death, and some from other causes. I regret to report the death of G. M. Reddish, who died since our last meeting. He was one of the best men in the state, and we feel very keenly the loss. Pulaski has a membership of 22, all of whom are alive to the work.

The Russell County Medical Society has gone to the wall. I met the society on the fourth of August, but was unable to get the members to return to the state society but hope this county will soon see the error of its

way and come back home. This society reported ten members last year.

Rockcastle comes forward with a gain of one member, and thanks to Southard, its secretary, it has a membership of ten, and is doing some good work.

Wayne comes forward with a gain of one, having a total membership of seven. This gives us eighty-three members in the district, which is a loss of fifteen members. We have some fine secretaries in the seventh, all of whom have done all they could to keep up their society, and with but one exception I have had no trouble in getting any information I asked for.

REPORT OF COUNCILOR OF THE EIGHTH DISTRICT.

C. G. Daugherty: As councilor of the Eighth district, I am anxious to report organization and enthusiasm in our society, plenty of which we have in us yet, to the the state society which meets in Lexington next week, September 27-29, where a splendid meeting is in sight. With this in view we will meet around the festal board at 6:30 P. M. tomorrow, Thursday, September 22, at Crosdale's Cafe at an oyster supper. At 7:30 P. M. we meet at the Court House to arrange fall and winter work, to arrange for entertainment of the Kentucky Midland Society, our guests in October, and to arrange for representation at the state meeting. A short program will consist of (1) Report of cases. (2) Report of case of pellagra. (9) Discussion of pellagra based on cases seen in Atlanta by George K. Varden, of Atlanta, Georgia.

REPORT OF COUNCILOR OF NINTH DISTRICT.

J. W. Kincaid: I have been unable to visit any of the societies in the Ninth district during the past year, but from time to time have written and tried to stimulate interest. I endeavored to arrange an itinerary for Dr. Shirley for Carter, Greenup and Lewis counties, but was unable to do so with any prospect of favorable results, hence had to give it up. In most of the counties there is such an air of indifference and lack of interest as to be positively discouraging. From reports made to you the net loss in the district is nine members.

J. W. KINCAID.

REPORT OF THE COUNCILOR OF THE TENTH DISTRICT.

I. A. Shirley: As usual, the secretary has misrepresented and traduced the tenth councilor district. I can account for his annual misstatement only on the ground that he is by nature envious of every rival of the Pennyrite in the neighborhood of Bowling

Green. He has published us to the world as being 21 to the bad, when we are in fact just about even, running neck and neck with last year. We think this is a condition of affairs not to be ashamed of when we remember that the continued rain nearly all the season did so much to damage our corn and tobacco and washed away much of our soil, as well as damaged the chestnut crop, one of our most highly esteemed products. Bath has increased too, according to him, when she gained five members. Breathitt, the county of resources in more ways than one, gained a member. Clark, he further asserts lost five members, when we gained two, a difference of seven. We seriously think of suing him for slander, even if he is backed by the Medical Defense Branch of the Kentucky State Medical Association. Estill took a tumble and lost a few. Fayette gained one, and has much available material left. Knott, way up in the hills, set a splendid example by picking up a member. Lee, has a bad way of doing things ugly sometimes, and this is one of her off years. Letcher is still silent, and we fear will not soon regain her voice. Madison lost seventy-five per cent. of her customary well-doing simply on account of carelessness, as Dunn would have looked after things better if he had been a home. Menifee lost one of her three, but we hope, like little Bo Peep, he will come home. Montgomery has two on the right side of the ledger, and bids fair to be among the leaders. Morgan says again, let me alone; I am joined to my idols and will have nothing more—lost beyond redemption I fear. Owsly, as small as she is, can always be counted on to maintain her standard of well-doing, and has every medical man controlled. Perry made a feeble attempt to get in the swim last year with much tribulation that seems to have died aborning as she has dropped out again after one year in good company. Powell, contrary to her usual self, dropped a stitch, but as that fellow left the state, I guess she can be excused. Rowan fell half way to the bottom and lost fifty per cent., which is an awfully bad way of doing business. Wolfe gained one, and is in good shape.

The report of the Councilor of the Eleventh District was called for, and passed, in the absence of J. S. Lock.

The next order was reports of delegates from each county society, especially covering professional conditions, number and character of meetings during the year, activity, results of health work, and all possible points.

ALLEN COUNTY MEDICAL SOCIETY.

W. A. Callis: We have 144 doctors, and all are members of the society but three. We

have held one meeting this year, at which four members were present.

BATH COUNTY MEDICAL SOCIETY.

B. Cornelison: The Bath County Medical Society was organized about eight years ago, with ten members. The society was supposed to meet quarterly this year, but as this did not work very well for the society we have changed back to our monthly meeting. Our society has twenty-three members, of whom 20 are paid up, and three are behind with their dues. While the society has not met regularly as it should have done, we are well organized, and there is little, if any, friction among our doctors. Since the organization we have been able to get better fees for our services, and collections are much better. We have a schedule of charges to which our doctors all conform, and are cultivating the people and educating them to pay their bills. We think this should be done in all counties as it would make much easier sailing for the doctors. Our secretary is very efficient and discharges his duties well. Our health officer is watchful, earnest, fearless, and ready at all times to do his full duty.

BARREN COUNTY MEDICAL SOCIETY.

J. C. McCreary: The society has had regular monthly meetings with an average attendance of nearly fifty per cent. of the enrolled members. Five papers have been read at these meetings, and many interesting clinics held. Our open meeting, the first in the history of the society, was in May. A very interesting clinic was held in the afternoon by P. F. Barbour, and a popular lecture was given to the public that evening by G. A. Hendon. This brought together nearly the whole of our society and many from adjoining societies, and awakened in us that interest for the betterment of ourselves and our society, which has so long lain dormant in us. The impetus received at that meeting has never failed to show itself in all subsequent ones. We also adopted a move and have taken steps to erect a hospital at Glasgow. By the earnest and persistent efforts of our society, the lash of the law has at last been applied to the only illegal practitioner in the county.

WOLFE COUNTY MEDICAL SOCIETY.

B. D. Cox: The Wolfe County Medical Society is in fair working order. Our time of meeting was the first Monday in each month. We have a membership of 12. Owing to the rainy, muddy weather, our members have not been attending the meetings very promptly. We usually have from four to six members in attendance. Considerable enthusiasm prevails during our discussions.

CLARK COUNTY MEDICAL SOCIETY.

Charles G. Stephenson: Things medical in Clark County are mediocre. We have twenty-three members in good standing and full fellowship. This is the same number as reported last year. Last year every member or doctor in the county was within the fold. This year five are standing aloof either from indifference, lack of finance, or other reasons. This difference in our report from last year is caused by five new doctors moving into the county. However, the five standing aloof are not all new men. I think two of the new comers are standing out, and three of the old guard have not come up. The new members, and young men who have come with the society, are good capable men, and this should insure new life into the society.

Our meetings have been rather spasmodic, but now, after a short period of lethargy, the society is taking on new life. Our meetings are held in the second and fourth Thursday evenings of each month. Refreshments are, as a rule, served and the social features are enjoyed.

We have had several good scientific papers worthy of publication in the JOURNAL, but they have not been sent in for publication.

The personnel of this society is good, and we have reason to feel proud of our members.

No public meetings have been held.

A fee schedule has been adopted in the past year, and it has put dollars into our pockets.

Irregular practice does not prevail in any marked degree in our county.

The mainspring in our society, the worthy retiring President of this association, has never at any time been found wanting in his zeal for our county society. With such a leader, backed by so many thoroughly capable young men, I feel I am warranted in predicting a better report for next year.

CAMPBELL-KENTON COUNTY MEDICAL SOCIETY.

W. E. Snour: During the closing months of last year we observed a slight falling off in attendance, and a little loss of enthusiasm. The meetings and discussions were devoid of that interest and snap, so much in evidence during the earlier months of the year. The Committee on Scientific Program for both the society and post-graduate class recognizing the inertia that had seized a portion of the members, discussed ways and means of overcoming it. After making some investigations the committee decided on a program for the present year of its selection. In making this change we endeavor to select those subjects which in our

opinion would appeal most strongly to the twentieth century physician and surgeon, such subjects as have special reference to increasing the length of life, and the conservation of our national efficiency. That you may appreciate more fully the nature of the work, we will mention a few of the questions discussed.

1. The campaign against infant mortality.

2. Sanitation and hygiene, and its application to the public school system.

3. The social evil, its prevalence and regulation.

4. The physician as an educator and as a sanitarian.

While the above program has not met with all of our expectations, as there has been no visible increase in attendance, we have had but two members that failed to prepare papers upon the subjects assigned. They were of high class, and elicited much discussion. Our social session following our monthly meeting has created a better feeling among the members, excepting those possessing faulty digestion. I am satisfied that the members of our society are more generally and thoroughly aroused, to the vital importance of the many social problems that are pressing for solution. They are likewise convinced that the day is at hand when the medical profession must assert its power in an educational way that society may be awakened to an appreciation of the fact that the family physician is the most useful man of his generation. The committee upon scientific program is also convinced that the indifference which, at times, attacks certain members of every society, is best overcome by the most aggressive efforts of the active members of these societies. They must utilize the opportunities at hand, develop new ones, create higher ideals. The members of all societies—yea the entire medical profession—will accomplish most when they utilize their knowledge for the benefit of humanity as a whole.

Several important resolutions have been adopted during the current year, some of them deserving special mention. These are as follows:

1. A resolution endorsing the principles embodied in the Owen bill for the establishment of a national department of health.

2. A resolution recommending the sterilization of habitual criminals, feeble-minded and epileptics, by vasectomy or similar operation without castration.

3. A resolution recommending that the state board of health notify all medical colleges in the state that beginning next spring examinations, all applicants for license must

demonstrate the possession of a working knowledge of simple refraction as can be accomplished without the use of a cycloplegic, and that any failure to obtain fifty per cent of possible standing will subject the applicant to a refusal of license.

This report would be incomplete should I fail to mention the only child of publicity resulting from the union of the Campbell and Kenton societies. Although not quite three years of age, its influence as an educator has been felt in many of the schools, churches, clubs and homes of Kenton and Campbell counties. Through its representatives many calls for lectures have been supplied. They were as follows:

1. Needs and welfare of Newport, from a medical standpoint at the Congregational Church at Newport.

2. Nervousness in children, in school and home, at Women's Club, Bellevue.

3. Mind and health, Dayton High School.

4. Some errors and superstitions in medicine, at St Marks Church, Newport.

All the foregoing were discussed by W. W. Anderson.

5. Sex problems in social hygiene before Men's Club of Bellevue, discussed by Senour.

In concluding this report, I trust the Kentucky State Medical Association will give the resolutions offered by this society serious consideration, for I am satisfied that public sentiment is ripe for a practical measure, to restrict the breeding of confirmed criminals and others judiciously pronounced unfit for citizenship; that public sentiment will welcome with out-stretched arms any reform that will give her citizens improved vision, and protect them against the spectacle vender and advertising optometrist.

REPORT OF THE SECRETARY OF THE CAMPBELL-KENTON COUNTY MEDICAL SOCIETY.

F. A. Stine: In submitting the annual report of the Campbell-Kenton County Medical Society, I wish to say we have enjoyed a very prosperous year. We hold on the third Tuesday of each month our regular meeting, and our post-graduate course every Friday. Both of these meetings have been well attended, and the class of work done by the members this year has far excelled anything in the past. The Committee on Publicity has held five public meetings, and excellent results have been accomplished. Last year we reported 88 members, and this year 89, an increase of only one. This hardly shows the work that has been accomplished during the year in securing new members, for in fact we have enrolled eleven new members, but were forced to drop ten members for non-payment of dues. We feel satis-

fied that a majority of these will pay up and be one of us again. In December last we held our annual banquet, at which time 60 of our members appreciated the honor of having with us our worthy President, J. E. Wells, and our Councilor, C. G. Daugherty.

CLAY COUNTY MEDICAL SOCIETY.

I. S. Manning: The Secretary of this society has failed to furnish a written report but I will try to have facts published in the KENTUCKY MEDICAL JOURNAL. We have eight members, and one doctor who is eligible does not belong to the society. We have not held regular meetings like we have had in the past. The members of our society need a little more enthusiasm. We hope to do better work.

CRITTENDEN COUNTY MEDICAL SOCIETY.

T. Atchison Frazier: This society has done very good work this year. The attendance has been rather small, but the doctors who have attended have taken lively interest in the work and have been well paid for their time. One of our members died March 16, 1910, John O. Dixon, and in his death the profession lost an honored member, while the community lost a faithful physician. These doctors have moved from our county during the past year: L. E. Gilbert located in Boaz, Kentucky; W. T. Travis in Hebbardsville, and J. Ernest Fox, in Paducah, Kentucky. These men were active in our society work, and they have been greatly missed by the profession. We have eleven members in our society; and while there are five non-members who seem to be set in their ways. We have no members of the defense branch of the state society, yet I believe we all endorse the principle. We heartily endorse the course of the JOURNAL, and feel very grateful to its editor for the work he is doing to elevate the standard of the profession in Kentucky. We most heartily endorse the medical legislation enacted by the last legislature, and we feel that it is a long step in advance for the people in Kentucky. We heartily endorse the action of Hon. Marion F. Pogue, of this county, in the last legislature, and feel that he should have a warm place in the hearts of Kentucky physicians.

DAVIESS COUNTY MEDICAL SOCIETY.

J. J. Rodman: Members in good standing, 70; members in good standing last report 73; loss in membership since last report, 3. Since last report five members have removed from the county and dropped their membership, and three have failed to pay dues, making a gross loss of six members. Five

physicians have been admitted to membership, and one application is pending. There is only one physician in the county who is not either a member or a delinquent, and this one says he cannot pay the dues. Our society meets quarterly, which is as often as those living away from the county seat find it convenient to attend. We have a city society that meets twice a month, its meetings being open to all. We do not attempt any post-graduate work, but have scientific papers and reports of cases. The city society furnishes dinner at three of the evenings, which we have found to be a paying investment. This feature brings the members closer together, and they become more friendly and social. In June the out-of-town members furnished a barbecue dinner. This meeting is always looked forward to with anticipations of a pleasant day in the open country air. Great interest is taken in all the meetings, and they are well attended. The average attendance for the year was thirty-eight.

FAYETTE COUNTY MEDICAL SOCIETY.

George P. Sprague: We have met regularly and monthly. We have a membership of 64, but also a large number of doctors who are eligible for membership, but who are not members of the society. Our attendance this year has not been quite as large as it was last, owing possibly to having more therapeutic subjects in our scientific program than we previously had. The only active work, outside of the scientific, has been the continuance of the Committee on Abortions. A coroner's inquest was instigated in one case of abortion by the committee, and the man accused was acquitted. A doctor in our community, who is the most guilty of all, does not do that kind of work any more, we are informed by the people, but refers such cases to members of the committee. (Laughter.)

FLEMING COUNTY MEDICAL SOCIETY.

J. C. S. Brice: We have had but very few meetings within the last year. I do not believe we have had a scientific paper read before our society. The membership is about the same as it was last year—no falling off. The members pay their dues and that is about all. I do not know what we need or what is the best means of securing attendance. I have worked faithfully for several years and I cannot get my country brethren to attend.

ELLIOTT COUNTY MEDICAL SOCIETY.

James H. Harper: We have our regular county meetings monthly, but on account of rough roads and distance we cannot all attend regularly, the distance being from five to fif-

teen miles. We are all in perfect accord with our state association and with the American Medical Association.

FRANKLIN COUNTY MEDICAL SOCIETY.

N. M. Garrett: One of our chief troubles is to prepare an attractive scientific program. We have twenty-two members.

GARRARD COUNTY MEDICAL SOCIETY.

J. B. Kinnaird: This society has not been visited by the councilor since the death of Dr Wesley, and although we are in existence we are not doing much work. All are working together harmoniously. Within a few days we will have completed a new hospital, owned and managed by all the physicians of Lancaster. There are two non-members in the county, and both are under indictment for practicing medicine without license. We have held one public meeting for the discussion of tuberculosis, which was largely attended.

HARRISON COUNTY MEDICAL SOCIETY.

M. McDowell: The Harrison County Medical Society is in a prosperous condition, with 28 members, an increase of three over last year. We have monthly meetings, which are usually well attended, with interesting programs and free discussions. Harmony reigns supreme among our members.

HENDERSON COUNTY MEDICAL SOCIETY.

M. C. Dunn: This society reports for the past year as follows: Our meetings have been held regularly during the year, twice each month, except for the summer months, and except also that but one meeting was held in February and one in March. The Y. M. C. A., of our city, gives us rooms for our meeting. These are comfortable and inviting. Our annual business meeting was held December 13, 1909. E. L. Busby, of Zion, Ky., is elected President for the year; William M. Floyd, Henderson, Vice-President; D. O. Hancock, Secretary and Treasurer. These officers, by our Constitution, constitute a committee on scientific work. By motion, each member was requested within ten days to hand to this committee two or three subjects on which he would prepare papers during the year; the committee to use these subjects, and then supplement them in arranging an outline for the year's work. Our committee arranged for two day meetings for the benefit of doctors out of town. These meetings, however, were poorly attended. Our annual banquet was held at one of our hotels December 27, 1909. Our guest of honor on that occasion was S. G. Gant, of New York.

At our business meeting the society adopted and had published in our local newspaper a statement of recommendations on tuberculosis. The chief point urged was a county tubercular hospital. This was in support of work already done by our local anti-tuberculosis society, which was acquiring property for this purpose. The report of the anti-tuberculosis campaign committee of the state society was also published in our papers. The paper of P. Ligon, on Alcohol, read to our society, was endorsed and published later in the year. By invitation, O. W. Rash, of Owensboro, read to our society his paper on "Early Diagnosis of Tuberculosis." We have at present thirty-eight members who have paid dues for 1910 to the state and county societies. This entitles us to two delegates in this honorable body. There remain out and eligible seven doctors who are in practice. We hope that this year will close with every white doctor who is engaged in the practice of medicine in Henderson county a member of our county society.

The fellowship among us is, we believe, up to the average. We must admit, however, that we have not all learned how to come in sharp competition in business and keep perfectly sweet all the time. We have also those who occasionally do what the other doctor cannot understand. Thus much is true in an exceptionally pleasant way as against any criticism or damage suits we are all one, and for the treatment of disease and for benefiting the public we are united.

Last year we reported the passing of J. T. Bethel and in 1908 that of J. A. Hodge and Ben Letcher. These men in fullness of years and honorable work ceased from their labors. It is ours to at this time report the death of Weir F. Armstrong, age 38 years. In his young manhood, when he was just coming into comfortable business and estate and family, his life was sacrificed for the relief of a patient. His death was the result of an accidental wound which he received while operating for double pyosalpinx. It was only the prick of a needle, but he is no more.

"Yet we sigh for the touch of a vanished hand

And the sound of the voice that is still."

LEWIS COUNTY MEDICAL SOCIETY.

J. D. Liles: This society has met only twice since our last annual state meeting, and on each of these occasions it was necessary to advertise a dinner at a hotel in order to get any attendance. There are sixteen of us scattered over the county, but I do not believe there is any power on earth that could get us all together at one time. In fact, we are so far separated that some of us are total stran-

gers to one another. Seven of us belong to the county and state societies; two have fallen from grace, and the others have never yet made the good confession.

Two of the worst features with which we have to contend are patent medicines and bad roads. The former is, I am glad to say, gradually becoming extinct. A few years ago the shelves of our groceries were loaded with the stuff.

During the past two years we have had no diphtheria or smallpox in our county, but have had an unusual number of cases of measles and typhoid fever, both of which diseases, with their complications, have proved fatal a number of times.

Financially, I believe every physician of the county is making a success. There is work for us all, and if any one does not succeed it is simply because he fails to deliver the goods.

LINCOLN COUNTY MEDICAL SOCIETY.

J. W. Acton: Our society has done practically nothing this year. We held a meeting in June, at which time we had some very interesting discussions. One thing we lack is vim.

LYON COUNTY MEDICAL SOCIETY.

L. P. Malloy: This society is composed of six members. It has regular monthly meetings, conducted by some member of the society in the form of a quizz on some subject selected the previous month. The society is in good working order, and the attendance for the past year has been very good. The interest manifested by one and all, I feel sure, has been of great benefit to the society. The society held an open meeting for the benefit of the public on the 28th day of May, which was attended by a number of the best citizens of our county, and all were pleased with the occasion. W. W. Richmond delivered an address on the prevention of diseases. Several other addresses were delivered during the afternoon. Our secretary submitted a question asking our senators and congressmen to use their influence in the passage of the Owen bill, which was unanimously carried. We have eight doctors in the county, one having moved into the county since our last meeting. We have been fortunate in having no epidemics during the past year.

M'CRACKEN COUNTY MEDICAL SOCIETY.

Delia Caldwell: We have met regularly twice a month, the second and fourth Wednesdays. In only a few instances have we failed to get a quorum. In one of these there was an enthusiastic Masonic meeting with high state officers present, which most of the doctors attended.

We have followed the program for the post-graduate work, outlined in the JOURNAL, and have had many excellent and instructive papers. The most important work done by the society this year was the inauguration and management of the establishment of an anti-tuberculosis association, with the raising of funds necessary for carrying on the work, and the putting up of buildings for a colony for tuberculosis patients. The county society raised the first funds by bringing to the city a reputable street fair which gave a percentage of the proceeds to us, and in this way several hundred dollars was made, which formed the nucleus of the anti-tuberculosis fund. We further assisted by bringing in a competent and experienced man with proper equipments of slides, etc., to give a public lecture on tuberculosis. The society has stood behind the whole movement until the public have taken it up. The work is completed and the buildings ready for use.

At the beginning of this year, 1910, there were forty-three members in good standing, and seventeen non-members. We now have fifty members in good standing and fifteen non-members. Not a single member has been allowed to drop this year for non-payment of dues. The secretary has had to use eternal vigilance and persistence to accomplish this result, and the members have helped valiantly in collecting from neglectful or dilatory members. Two of last year's members are no longer in the county, leaving forty-one of last year's members still in good standing. Three of last year's non-members have joined; six of the new members are those who have recently moved into the county; of the fifteen non-members, two are absolutely ineligible, one is superannuated, three will come into the society very soon, and one is personally unacceptable to a majority of the society. Each of the other seven has been invited and urged to join, but for various reasons they do not care to do so, but we are pegging away at them. We have an average attendance of fourteen members.

Another improvement inaugurated this year is a permanent place of meeting. We meet regularly at the Woman's Club, a central location, and in every way a desirable place. It is a great improvement over the old way of meeting at the offices of the various doctors.

We are starting in this year with good interest and attendance, and anticipate a good year's work. We hope an improvement will be noted over this year,

MARION COUNTY MEDICAL SOCIETY.

Edward Kelly: In making a report of the our county society during the past year, I will say that, while you have not heard much from

us, we have been doing fairly creditable work. Our membership numbers eighteen, which includes every regular, licensed physician in our county, except one. During the past year we have lost by death two of our members, W. E. Mattingly, who was still in active practice, and W. W. Cleaver, who was the oldest physician in our county, but who had some years since retired from active practice. Cleaver, in his active days, was one of the best known physicians in the state. He was a colleague and close personal friend of the late David W. Yandell. We have also lost one of our members by reason of removal to another state. But we have gained two new members during the past year, both being young men who have recently graduated and come into our midst to practice their profession.

The fact that our society embraces in its membership practically every legally qualified physician in our county, is due in a large measure to the active work of our district councilor, R. C. McChord, who is also our efficient secretary. Our society meets once in every two months, and our meeting place is in our city hall. While I am sorry to have to report that as a society we have fallen short of the mark in regular attendance and in the interest manifested in our society work, yet we have usually had a fair attendance at our meetings and we have done some fairly good work. During the past year we held one open meeting, to which the general public were, by notices in the local press and otherwise, invited and asked to participate. At this meeting some very good papers were read upon such subjects as public hygiene; the prevention of tuberculosis and other preventable diseases, etc., but the response of the public to our invitation and the interest shown were not such as to encourage us to repeat the effort.

We have not in our society undertaken any post-graduate work, which I think we should do, and which I think every county society should do within certain limits. I do not think societies with a small membership should undertake a program of work of this kind to the exclusion, or the very material limitation, of the preparation and discussion by its members of papers upon live clinical topics, but I think in all of our county societies we could with much profit and interest have at each meeting, say one discussion, probably by one of the younger members, upon such subjects as surgical or regional anatomy, materia medica, chemistry, urinalysis, pharmacology, etc. It would help the busy member to keep himself from growing rusty in these important fundamental branches, and would give the young member, fresh from college and lacking

in clinical experience, a field of work in which he could feel himself capable and in which he would take an interest.

MERCER COUNTY MEDICAL SOCIETY.

T. O. Meredith: We have been getting along nicely in the last twelve months. We meet once a month, and during the year only failed to meet once, and that was when we had our county fair. There are 23 doctors in the county, twenty of whom are members of our society, and paid up. We have the promise of two of the other three. We have had scientific papers read at every meeting. We have held clinics and have done some good work. We have had quite a number of public meetings, and last fall we took up the matter of trying to do missionary work with school children, having public lectures on hygiene in every school in the county. The physicians in our county have agreed among themselves to make no insurance examination for any society or brotherhood for less than five dollars, and all doctors in the county have signed the agreement. We believe that is a step in the right direction.

MONTGOMERY COUNTY MEDICAL SOCIETY.

C. B. Duverson: Our society has been organized for many years, but sometimes we have an off year. This is one of our off years, but we have shown indications of doing better. Our meetings are unusually good when we are doing business. This year we have been in very good shape. There is nothing particular except lack of interest, and occasionally our members are negligent. Our members are all right and they aim to do what is right. We have about twenty-three doctors in the county, but two of them are colored. We have fifteen members, but whether they are all paid up or not, I do not know. We have had no public meetings during the last year. We have had a lecture or two at the public schools on the prevention of tuberculosis.

MUHLENBERG COUNTY MEDICAL SOCIETY.

M. P. Creel: Our physicians have had a busy year and have been rather careless about their attendance at our county meetings. Taking them as a class, they will compare favorably with those of a county where there are 38 or 40 physicians. We have a few knockers scattered over the county, who spend the greater part of their time knocking the more successful doctors and disparaging all their efforts. The result of their work is very good, for the advertisement they give the doctor whom they are striving to injure increases his practice and influence, and in course of time the talking doctors go to the

place where all good knockers belong. It is difficult to fool the people for very long at a time, as they soon note the fact that the grouchy doctor who has nothing good to say of other physicians has only a selfish motive, trying to increase his practice at the expense of others, and shortly this same physician has one less patient, not because he died, but because the said patient has called in the doctor he has heard so much about from his former physician, realizing that nearly everybody has some good traits, even though it be the doctor trying to make a living. This same class of physicians are all fine, very fine diagnosticians. They can secure the diagnosis from some good old woman, and even though she does not know from what disease the patient suffered, and perhaps not even the symptoms, and he can quickly give a diagnosis and treatment and the final prognosis as if he were treating the case himself. But this is only a part of human nature with which every doctor, who has practiced in a small village or town, has to contend with sooner or later, and which the doctors in the larger towns happily escape. However, we will let the knocker be, as he is useful as an advertiser of the industrious physician who attends strictly to his own business and allows others the same privilege. All conditions are improving wonderfully with our physicians over the entire county, and each year shows a marked improvement in better doctors, better equipment and better practitioners.

NELSON COUNTY MEDICAL SOCIETY.

Hugh D. Rodman: It is with a great deal of pleasure that I report the doings of the medical profession in Nelson County since our last meeting, and also the condition of our profession to-day.

Since we met in Louisville, one year ago, our county society has held four meetings. At the December meeting two good papers were read and freely discussed. Three very interesting cases were reported. At the March meeting only one paper was read, but four or five cases were reported and discussed, which adds more to the interest of a meeting than the reading of papers.

At the June meeting two very excellent papers were read and fully discussed in the forenoon. After dinner an open meeting was held in the Court House, to which the public were invited, and a good number attended. This was addressed by W. E. Grant, of Louisville, and by Mrs. Fulton, one of our town ladies, both of whom delivered very instructive talks along the lines of sanitation and preventive medicine. These lectures were ably discussed by both doctors and laity. At the September meeting two good papers were

read, and much interest was manifested. It seems to me to be useless for me to take up your time this evening in repeating to you what Nelson County doctors have done in the last year, because if you have been readers of our excellent State JOURNAL you have seen in it about all that our Nelson County doctors have done. I say with a great deal of pride the labor of Nelson County doctors has contributed thirty pages to our State JOURNAL in the last twelve months, which is far more than any other county in the State except Jefferson. The Counties of Warren, MeCracken, Fayette, Daviess, Kenton and Campbell, with their large county societies, have none of them given to the readers of the JOURNAL as much matter as our little County of Nelson. This is an evidence of what Nelson County doctors are doing without a report from their delegate. Besides what has already been published in the JOURNAL, we have two good papers yet in store awaiting their turn. We had at the beginning of the year twenty-two doctors in Nelson County, twenty of whom were members of our county society, but we have lost two members by removal, one to Hardin County, and one to Jefferson County, leaving us twenty doctors, and eighteen are members. Our doctors are all doing well; five of them practice in automobiles. We are all a jolly, social set of fellows, are all devoted to the JOURNAL, and regard it more practical and far more beneficial than the *Journal of the American Medical Association*. The greatest fault I have to find with our doctors is that they are too careless about attending the society meetings. The State Board of Health has drafted one of our best young doctors and made him Registrar of Vital Statistics, which we sincerely regret.

At this juncture, the secretary moved that a rising vote of thanks be extended to Dr. Weis for his excellent paper on medical defense, with godspeed on his journey home.

Seconded and unanimously carried.

NICHOLAS COUNTY MEDICAL SOCIETY.

B. F. Reynolds: This society is in fairly good working order. We meet on an average of once a month since January 1910, with the exception of July and August. About one-half of the doctors in the county are members of the society.

KNOX COUNTY MEDICAL SOCIETY.

Charles L. Heath: This society has a membership of 17 doctors, an increase of two. There are seven doctors in the county who are not members of the county society. Two of them are not practicing their profession. We have held only six meetings during the past year, owing principally to the hot.

rainy weather of the past summer. Several of our doctors have a mine or contract practice, which requires their constant attention, rendering it nearly impossible for them to be present at our meetings, as they are held at the county seat. I believe that a remedy for this condition would be for the State Society to discourage as much as practicable the doing of contract work. Doctors who are doing such work here are not getting near the fees they should for the class of work they do, and do not have the privileges doctors should have.

The society held two public meetings last spring in behalf of an effort to get a hospital for tuberculous patients. Several papers were read and thoroughly discussed. Some steps were taken to secure funds for the erection of such a sanitarium, but at present little has been done. The medical profession of Knox County as a whole is in very good condition. There is a very good general professional feeling among us, and I hear very little complaint about unprofessional conduct.

PENDLETON COUNTY MEDICAL SOCIETY.

J. E. Wilson: This county is a rough farming county. The county seat is Falmouth, thirty miles south of Covington on the Licking. Our county society embraces every physician who is qualified to practice, with one possible exception. We now have within the county 18 members, and from outside the county five more members. The members of our society this year have been loyal and attentive. Our past year has been one of progress and harmony. Our meetings have been held regularly on the second Wednesday of each month. We have always had a good attendance. Our sessions are from 10 A. M. to 3 P. M.

We follow an order of business, and give due time to clinical cases and reports. We have a printed program for a year, and we have consulted the post-graduate course freely in arranging our program. I do not recall any member who failed to respond, who was on the program last year. We have a literary critic, who discusses every good and every bad feature of the meeting at its close, including pronunciation, definition, expression, slang, etc.

Our secretary has done his work so well that he recently received a special reward of merit from the society. It has been freely remarked that he keeps his minutes better than any one of us could do.

For some years it has been the history of our presidents, that they have not missed a meeting during their term of office. We have committees on publicity and public hygiene, and we have aimed to deliver a lecture on tu-

berculosis in every school-room in the county. A spirit of real fellowship exists among us. We have adopted a uniform fee scale, which has done much in simplifying our relations toward each other. Our last meeting of the year was entirely of a social nature. The ladies from the homes of all the members were invited, and a right royal day it was. Certainly, more efficient work in recent years has done much to reduce the number of physicians' calls. The physician is also responsible for the dissemination of much practical information in the home, resulting in a better hygienic condition, and less sickness; hence a much diminished income for the physician.

I have such an interest in our future welfare, that I almost dare to make a suggestion or two. There is danger of our society dying from monotony. We are sending each year quite a sum of money from amongst us to the various specialists. Probably we have time to become specialists at home. The curriculum of a good college has 18 or 20 chairs or branches, and I would suggest that these subjects be distributed in our society, each man take up one, and work on it for life. A program could be arranged so as to hear lectures from a certain member at each meeting. In our daily work, when we need counsel, call the man who is up on the branch in our own county.

The Secretary moved that the part of the report of J. E. Wilson be referred to the Reference Committee on Medical Education, inasmuch as it contemplates a change in the Committee on Program.

Seconded and carried.

PULASKI MEDICAL SOCIETY.

Carl Norfleet: This county medical society desires to make the following report for the current year 1909-1910: We have within our jurisdiction 47 physicians, 7 of whom we consider ineligible to membership, thus leaving 40 who are eligible. Of this number there are 24, or 60 per cent. who are members of the Pulaski County and Kentucky Medical Societies, therefore leaving 16 eligible non-members. Only 4 of our members belong to the Defense Branch. We have lost from our list this year 4 physicians who were or have been members of our societies, two by removal to other States, and two by death.

Just here we will bow our heads as an expression of deepest sorrow and regret in tribute to the memory of the late George Marshall Reddish who died in Oklahoma City, February 19, 1910. Dr. Reddish was a faithful member and brother in the Pulaski County, Kentucky State, and American Medical Association for years. He was loved by all who knew him. He was a great, big-hearted, and

good man, carrying with him sunshine wherever he went. Though he is dead, his name and good works continue ever bright in the minds of those whom he had a chance to serve.

The Pulaski County Medical Society has been enthusiastically progressive in its work this year. We have had 12 regular monthly meetings, with a total attendance of one hundred and eight physicians.

At these meetings 12 interesting papers were read, followed by 36 discussions. Also 22 interesting cases were reported, followed by 41 discussions.

These papers and discussions were regarding such subjects as tuberculosis, pellagra, alcoholism, doctors' differences, internal secretions, toxemias, apoplexy, etc.

We feel that much good has been accomplished for both the society and the people of Pulaski County. We have made a strong fight against charlatanism and quackery. We have given to the people of this county through the press, public lectures, open sessions and at the bedside, instructions regarding tuberculosis, infections and contagious diseases, and general sanitation.

There is harmony among the members of our society. The majority of our members are energetic young men who are affiliating themselves with the society by their regular attendance, interest in the society work, and prompt payment of dues, all of which promises our society a bright future.

We wish to commend the JOURNAL in its successful efforts the past year.

ROWAN COUNTY MEDICAL SOCIETY:

A. Scaggs: I. A. Shirley attended our meeting on September 20 and we had a very interesting meeting. He gave us a fine talk on the duty and benefits of the local medical society. There were seven members present. We elected new officers, as follows: President, J. Wilson; Vice President, F. M. Carter; Secretary, A. Scaggs.

TRIGG COUNTY MEDICAL SOCIETY.

J. H. Lackey: We have met only a few times during the past year, and I am sorry to say that our society is not in a very flourishing condition. We have some fine progressive members, however, in our society. We have all been very busy, and our Secretary, Dr. Blane, has been in Denver, Colorado, seeking to restore his health, and no one has taken the trouble to call meetings. A small number of the members have paid up their dues, and most of us are anxious to continue our membership in the State Society. There is no profession or calling among them that can be compared with the medical profession. We

do not deal in futures; we deliver the goods now and here. No class of men do more for humanity, nor hold a more responsible office, or make as many self sacrifices to serve the people as do doctors. While I feel that I hold a very humble place in the profession, I am proud of the great honor of membership in the State Society. I am proud of our State JOURNAL, and of our great leaders who are rapidly bringing the profession in Kentucky to the very front rank among the States. I had the honor of serving as Chairman of the Committee on Public Health in the last session of the General Assembly, Lower House, and while I can commend every member of that committee for faithful and efficient work, and great interest in all medical legislation, I wish to call especial attention to the very faithful and efficient service rendered the State and the medical profession of Kentucky by the medical members of that committee, namely, John R. Claypool, O. M. Kel say, S. P. Parks, George H. Plitt, and R. H. Moss. None of the medical legislation could have been passed without the advice and assistance of the Secretary of the State Board of Health, who by his faithful and arduous labors for the public health of the State and untiring work for the elevation and development of the profession, has brought us all under obligations we never can pay, and, who can never be fitly rewarded until he wears a starry crown in that land of the blessed where sickness and sorrow, pain and death, are felt and feared no more.

UNION COUNTY MEDICAL SOCIETY.

S. L. Henry: We have twenty-eight doctors in our county at present; two aged men whom we admit as honorary members, because we think them too old to pay dues; one homeopath, and one irregular, which, of course, we do not admit to our society. One physician has just moved into the county, and one recent graduate has just begun to practice. They have not yet come into the society, but will soon. There are two regulars who have never been members of any society, and I am not able to see why they stay out. Two of our regular members, who have been members for a long time, failed to pay their dues this year. We have twenty members in good standing who have paid their dues. We meet four times a year on the first Wednesday in March, June, September and December.

WHITLEY COUNTY MEDICAL SOCIETY.

L. O. Smith: This society has grown to 37 members. Practically all the reputable members of the profession, who are engaged in active practice, are now members. We have had several interesting meetings during the

year, and they have been fairly well attended.

There has been a great improvement in professional conditions within the past year, yet we feel that we may be able to better our professional condition. For the success of our society I want to commend the efficient and energetic work of our Secretary, B. E. Giannini.

On motion, the House of Delegates then adjourned until 7:30 P. M.

SECOND SESSION.

The House of Delegates reconvened at 7:30 P. M. and was called to order by the President.

REPORT OF COUNCILOR OF THE ELEVENTH DISTRICT.

J. S. Lock: We have 113 members as against 89 last year, an increase of 24. This district lies entirely in the mountains, only three counties being accessible to railroads, some of them one hundred miles from railroads, and you may know it is almost an impossibility to get them to attend meetings. We have only 151 doctors in the entire district who are eligible to membership, and of this number there are 113 in good standing, which speaks well for the district in the mountains. Of course, we have some petty differences and factional strifes among doctors, but these are fast disappearing, and I hope and believe that it will be only a matter of a few years when every doctor in the Eleventh district will be a member of his county and state society. We have one man in our district that deserves special credit and special mention for the work he has done in this county, Dr. Giannini, of Whitley County; with a membership of 37, went through the mountains and over the country, and wherever he met a doctor in the road he held him up and took three dollars away from him, and turned him loose. (Laughter.) We are progressing in the mountains and we hope to reach the goal after while. We have had two or three public meetings which were very well attended. The people were enthusiastic. We did good. We are making an effort to establish a county sanitarium.

Dr. G. A. Hendon, Chairman of the Reference Committee on Division of Fees, presented the following report of this committee.

REPORT OF REFERENCE COMMITTEE ON DIVISION OF FEES.

The following facts are so generally conceded that they permit no discussion: The relation between patients and physician is one involving responsibilities and duties of such vital character that through all time it has

been regarded sacred; that in no other calling is a more supreme trust imposed than that laid upon the physician.

The most valued asset of the profession is the faith and confidence which the people repose in the honor and integrity of its members. The people place the health and lives of themselves and their loved ones unreservedly in the hands of the physician. He is the trusted friend of the home and fireside. That such confidence is only exceptionally misplaced is the crowning glory of our profession.

The esteem and respect bestowed upon individual members and organized bodies of the profession in all civilized countries are commensurate with the standard of honor and duty established by the profession.

As a result of the tendencies of the age and the great advance in medical science, specialties have developed in medicine as in all other professions; that such divisions of labor have divided the profession into groups which have done incalculable good in advancing knowledge and improving medical practice; that the creation of specialties in medicine has made more important than ever the cordial and honorable co-operation of all members of the profession in the interest of humanity.

The various departments of medicine, including the specialties, are mutually dependent and must from the nature of things always work together in harmonious co-operation to do the greatest good for the people and to promote the highest and best interests of the profession.

The relations between the great body of the profession and the specialties have not been properly defined, and the condition is of such recent origin that time has not been sufficient to establish a permanent basis of equitable relationship.

There has grown out of these conditions a great evil which threatens to work injustice to the people and to fatally impair the respect and confidence reposed in the profession. Instead of an open, frank and honorable adjustment of compensation, the physician and surgeon have in many places entered into a secret division of the surgeon's fee. In some instances the pretext is made of making a joint bill, or maybe the family physician is paid for assistance by the surgeon, or, as in most instances, the physician is given a good part of the fee paid by the patient to the surgeon without the patient's knowledge.

Such a division of fees is in effect the payment of a commission, and is a system of trade totally unfit for adoption by an honorable profession. This pernicious practice is known to prevail to an extensive degree in

Kentucky and can no longer be ignored by this society.

This division of fees is in flagrant violation of all the tenets, traditions and principles of the medical profession. It could not be considered honorable dealing in trade. Its results are most pernicious. It destroys the standard of professional attainments as the essential of success. It elevates the unworthy and puts a premium upon double-dealing. It begets unnecessary operations and favors operations of doubtful indications.

Your committee believes that it should be made plain to the laity that the services of the family physician are of vital importance in all consultations; that it is important that he should unite in counsel for determining operation; that his association with the surgeon is in the patient's interest, and that he should be duly and properly compensated for those services.

Your committee would also recommend that this society make it known both to the medical profession and the laity throughout the State of Kentucky that the division of fees, paying of commissions, or any secret dealing by physicians and surgeons is unprofessional, unethical and dishonorable, and that no physician or surgeon guilty of this practice will, when proved, be retained in membership, or be admitted to this society.

(Signed)

G. A. HENDON,
B. CORNELIUS,
P. H. STEWART,
B. F. ZIMMERMAN,
C. Z. AUD,

The President: What will you do with this report?

A. T. McCormack, Bowling Green: I move the adoption of the report as the opinion of the society. I think this matter ought to be discussed fully and frankly, as it is an evil that is with us. It has not taken the tremendous hold on the profession that the quack nostrum business has. Nevertheless it is an evil that is reaching down in the bowels of the profession, and it is largely because we have not talked about it openly. A great many men have not considered what it means; they would have absolutely nothing to do with it if they understood it. The doctors out in the State are getting letters from so-called surgeons offering a fixed percentage commission. These surgeons are frequently writing to these doctors, even those whom they do not know personally, for the reference of surgical cases. It is a violation of the law in western states, where it had its first start, and the evil has slipped insidiously into the western states. It is an evil we have before us and

with us. Reputable surgeons should not offer to pay sixty per cent. of the fee in some cases, and seventy per cent. in others to practitioners for referring cases to them. We should talk about this matter frankly and inform the people of the State that it is a dishonorable practice, and that it is the most dangerous thing that has ever attacked the reputation of the profession, because if it is permitted to go on it will destroy the public confidence in us, and it must ultimately destroy our confidence in ourselves as honorable and upright men. It is an evil that should be condemned by the members of the profession, and as soon as they stop to think about it, they will put a stop to it like they have to many other bad things that have been done by doctors in the past.

A. Scaggs, Morehead: I wish to second the motion to adopt the report.

R. C. McChord, Lebanon: This subject should be discussed thoroughly. It is an evil that has crept into the medical profession of the State. Publicity should be given to this report and resolution. I believe that this evil has originated right at the fountain head—the professors in the medical colleges in this State. I know from my own personal knowledge that a great many young men have been debauched by the professors whom they look upon as their ideals, and who naturally expect these young men to refer cases to them for a consideration. This thing has become proverbial in a great many of the schools in this State, where a young practitioner is taken out and advised by his professor, the man in whom he has confidence, and whatever the professor does he thinks is the right thing, and young men have been debauched in this State by men who have taught and who are teaching in medical colleges, who urge them to send their cases to the old professor, who will allow a certain percentage of the fee he receives. The whole thing has reached a point when it should be stopped, and the proper way to put a stop to it is that if a man does not quit this practice, he should be turned out of the society.

W. W. Anderson, Newport: There are two sufferers from this evil in the practice of medicine besides the patient. One is the specialist who offers the bribe, and the other is the general practitioner. I happen to be a general practitioner, and have suffered severely, but there can be no question but that the temptation has arisen through a lack of any definite plan or understanding as to what should be the division. The temptation has arisen among general practitioners and among specialists to get together and divide the plunder, and I think it rises generally through a lack of some righteous plan of set-

tlement. I do not think there are many physicians who are wilfully crooked, but there is no generally understood plan of what is the proper division of the fees from a case, or what is the proper share of each man. In my early practice I referred a case to a surgeon, and the patient insisted that I should have a hand in the case. She did not know how poor a hand that would be. She insisted that if she was operated on I must be present and watch her case. I told her that I would be very glad to do so, and her case accordingly was referred to a surgeon. The patient wanted to know what would be the probable cost. I told her that I could not say what the exact cost would be, but that it would probably be so much, but could not tell definitely until after the operation was done. I told her that I did not think she would be treated unreasonably. The surgeon said to me, "doctor, you know the condition of these people better than I do." We decided on a fair average fee. The surgical work was done, and I did not know what to give him, and I did not know what to retain for myself. I asked some practitioners of longer experience what they would do in such a case, and they said that if the case lost out I would be the loser, and that I ought to have a large share of the fee. On the other hand, they said if the case wins out, I would not be the winner, because the surgeon would get the credit. Another said to me, "Well, doctor, what do you think your services are worth to that patient?" I replied, "mighty little." "Well," he said, "that ought to give you a clew how to divide the fee. I said to the surgeon what my fee would be, and he said 'you know what the family is able to pay.'" I asked him what his fee was and he says he did not like to state a price. Now what is a man with very little or no experience in these cases going to do under such circumstances?

I like the spirit of the report of this committee in so far as it insists that there must be something done, but won't you tell us what to do. What is the equitable basis in this thing? What right has the general practitioner in a case he refers entirely to the specialist? Has he any right whatever? What right has the general practitioner to share in the division of fees in a case when he takes all the ordinary care outside of the immediate special services of the operation? Will you not please tell us, you men who are doing special work what you think about this? We general practitioners would like to do the square thing. We do not want the specialist to get all the money. We would like a little.

The President: What did you consider the proper thing in the case you have referred to?

W. W. Anderson, Newport: I did not know what was the proper thing. The surgeon

said, "I did the operation, and you looked after the rest of the case, that is, the after treatment, and you ought to be well paid for these services." We finally settled the matter by taking \$75.00 each.

W. B. McClure, Lexington: I think Dr. Anderson is wrong in his conception between the general practitioner and specialist. I do not believe in joint fees. I believe each man ought to itemize his bill and charge according to what he has done. If a man brings a case to me I charge for the operation, and I expect him to charge the patient for what he does, and not for any part of what I do. I carry this to such an extent that I never include the fee for the anaesthetist. I have the patients or their representatives arrange these things, and I tell them what the charge will be. They can leave the money with the anaesthetist when they wish to settle, or if they prefer they can send a check to the man who gives the anaesthetic. I think that plan will prevent any misunderstanding. When a fee is subdivided the division is usually secret. If you render your bill and itemize it and you have added so much for assisting in the operation to the bill, the patient knows that it comes from you, but in my judgment the bill should not be a joint one.

I do not quite understand the recommendation of this committee. I agree heartily with the excellent report the committee has presented, and I believe this matter ought to be put into working shape. I do not know whether the committee intends that this shall be incorporated into our by-laws and in that way adopted by the Association. I believe if that can be done it is the best disposition to make of it. Or, perhaps it would be well to refer it to the County Societies and allow them to incorporate it into their by-laws. I like the spirit of the report made by this committee, and I am almost inclined to make a motion that the Secretary transmit a copy of this report to each County Secretary in the State requesting him that his society take this matter up, and if it sees fit, adopt a by-law which makes it an offense by which a man may be expelled from the society if he is convicted of having been guilty of this crime of dividing fees. I think if gotten up in that shape it would have to come through the County Societies. As a State organization we could not incorporate it in our by-laws, but if a man is found guilty of dividing fees he should be expelled from his county society.

H. D. Rodman, Bardstown: Like Dr. McClure, I think Dr. Anderson has taken a wrong view of the report of the committee. If, as a general practitioner, I am treating a case that I decide is surgical, and I refer that case to a surgeon, then my service ends. I should charge for my service up to that time.

When the patient is referred to a surgeon, the surgeon assumes responsibility, and my responsibility ends. The surgeon should charge his fee for his services as he thinks best. If the patient returns to me for after treatment, I continue to charge for medical service. If I refer a case to a surgeon who offers me 50 per cent. of his fee, he and I are both guilty of the crime of the division of the fee. This is an imposition on the patient. On the other hand, if I treat the case up to the time that I am satisfied it is a surgical one and refer it to a surgeon, then my service and responsibility end, and I have no more right to a part of his fee. That is the spirit of the report of the committee according to the way I understand it, and I believe as a State society we ought to adopt and publish that report.

The Secretary: The whole idea centers on the construction placed on this report of the committee. I have recently had experience which illustrates what Dr. Anderson has said. A case was referred to me by a general practitioner in the country, who brought the patient in, after very careful painstaking examination and treatment, with gall-bladder disease. He had made the diagnosis carefully; he had used the proper medical treatment for quite as long as it was necessary, and then brought the patient in and recommended operation. He said to me when he came in with the patient, "I have made so many visits. You know where I live, and my fee is \$2.00 a visit. In addition to that, I have spent much time on this case in making a careful diagnosis and don't you think I ought to charge this man for my services in addition to the ordinary visits. I have made 20 visits. The time consumed in making these visits is small as compared with the time I spent in studying the case, watching the patient, and getting him to make up his mind that he seriously needed the operation." I said to him, you ought to be compensated for your services. You render this man a bill, and let him pay you for your services. We talked the matter over with the patient and the physician who brought the case told him what his bill would be, and at the same time I told him what I would charge for the operation and after treatment. But I told the patient that when I was through with the operation of merely cutting open and draining the gall-bladder it was just the beginning, so to speak, of his treatment: that he must go back to his family physician who must carry on a line of after treatment without which the operation might prove useless, and for these services rendered to him he must pay him. It is a service I do not render, but one which your family physician renders. He went back

to his family physician after the operation with more confidence and more faith in his doctor than ever before, or would have had if his physician had done the contrary, or had he come to the point where he would say, "I have paid my doctor \$40.00 for making 20 visits; I have gall-stones, and if I have an operation the trouble will be over." I am satisfied that there is an *entente cordiale* between the general practitioner, who does not operate, and the surgeon who does, provided the general practitioner does his duty in the case.

Let me mention another and a contrary instance. A woman came in from another section of the country. She had been vomiting. She had some general symptoms indicative of peritoneal involvement, and her physician brought her. He said to me "Here is a patient whom I have treated for three days; I do not know what is the matter with her; you had better examine her." When I started to pull the cover off, she said, "Do not look at my stomach, doctor; I am timid." After insisting on making an examination I found she had a piece of adhesive plaster about four inches square covering a strangulated inguinal hernia. This doctor did not look below where the line of the cover came up, and such a doctor ought not to have been paid a cent. He was overpaid if paid anything, and any suggestion that he should have been paid would have been outside of the mark, and yet the patient was as easily sent back to him as if he had understood the case, and such a mistake could not have happened in his practice again.

All that is necessary is to do the square thing. A patient is occasionally brought to the hospital by a practitioner who occasionally does a surgical operation himself. I recall an instance like this of a man who occasionally does an operation for appendicitis. He brings a patient in who is not willing to have him operate. The patient wants somebody with more experience, with more skill and who is more successful than he. He says, "I would like you to do this operation, as she will not let me do it. I want you to do the operation for me, and I want to be paid as an assistant for doing the operation." Now, so long as the patient knows what he is paying for and to whom he is paying the fee, it is proper, but the minute you divide the fee without the consent or knowledge of the patient, you are in serious trouble.

There are some practitioners outside of societies who are practicing this evil, but I am satisfied the majority of the members of our profession will quit doing it if they can be shown the evil and injustice of this practice, and then if they do not quit, they should be

expelled from the society. The men who have done this thoughtlessly will have no difficulty in quitting the practice, but the men who do it deliberately are out, or if they are not already out, they soon should be. I believe we should discuss this matter with the laity and give them a clear understanding of it.

J. G. Carpenter, Stanford: It seems to me, this matter should be settled. The first thing is to do right, and the next thing is to carry in your pockets a copy of the Bible and the code of ethics. Let these things be a light unto your feet and a light unto your pathway. If I have a patient that has to go to a hospital to be operated on, and the surgeon dispenses with my services, I say Amen. If the patient wants me to go to the hospital and assist in the operation, I will go, and if it were Dr. McCormack we would get along like David and Jonathan. I would get a good fee for my visits to the patient and for assisting in the operation. But the fee for the operation should be entirely separate and distinct from my charges, and the patient should be so informed. When patients need to undergo an operation, one can pick out or recommend half a dozen surgeons, all of them agreeable in every way, and it is very essential for surgeons to charge reasonable fees because they cannot live without it. Their services are worth it. If patients want me to accompany them to hospitals to be operated on, they must pay me for my services. Then, if the surgeon has a patient that is rich, he ought to get a good fee. On the other hand, if the patient is poor, the surgeon should give his best skill, even though he does not get a cent.

There is another side to this question. A doctor sometimes takes a patient to a surgeon or specialist and says that this patient can only pay \$25.00, when in reality the patient has given that doctor \$100.00. He keeps the \$75.00 for himself. In this wise the family physician is made rich and the surgeon poor indeed. Let us do right and use the code of ethics for our guide. I believe in having patients pay what our services are worth when they can afford to do so. The great trouble with members of the medical profession is that they are very scientific, but lack good business sense. We know that the average doctor is the poorest of all men as a business man. When we put practical common sense into the practice of medicine we shall do unto others as we would be done by others. I believe in the surgeon standing by the anaesthetist and in standing by the general practitioner, and if a general practitioner assists in an operation he ought to be paid for it. The anaesthetist ought to be paid for his services. We charge \$5.00 and \$10.00 for administering an anaesthetic, and from \$10.00 to \$100.00

for assisting in major operations. Let the public understand this. Let us do right.

J. C. McCreary, Cave City: I want to say a few words right here. I confess I was ignorant of this situation, and several surgeons have written me offering a division of fees for cases referred to them. I am very glad to have this evil and unjust practice pointed out to me, and which is a violation of our code of ethics, and I promise not to be guilty again, even if they are. (Applause.)

Carl Norfleet, Somerset: I have been receiving letters from a man offering \$25.00 for every case of alcoholism I referred to him. I would like to know whether other members have received similar letters.

The Secretary: The representatives of concerns which offer to pay \$25.00 for referring such cases to them are generally fakirs themselves. If it is a reputable sanitarium that treats these unfortunates, they would not consider such a plan for a moment. I should say that any concern which will offer to pay \$25.00 for the reference of a case is fraudulent.

J. E. Wilson, Falmouth: How are we going to undo the mischief that has already been done? Just a word in regard to that. If we do not bring this matter before the people we will suffer the disadvantage. If we make it absolutely public, it will have an influence in stopping this pernicious practice. In taking the case to a specialist in a city some intimate friend asked me about the charges, and I said the charge would probably be this or that, \$100.00 or something of the kind. He said to me "And you get half of that?" My reply was that I did not get even thanks. I am not paid off with thanks, but render my bill for whatever my service is worth, and I said to this patient that if you insist on my going to the city with you I will charge so much per day and my expenses. The important thing is to make this information public, to disabuse the minds of the people in regard to this veil.

R. C. McChord, Lebanon: I move that this resolution be referred to the secretary of each county society, with the recommendation that at some joint meeting between the physicians and the laity this matter be brought up and discussed. Seconded.

Z. A. Thompson, Pikeville: I think this matter is to be looked at from two standpoints. If I have a patient under my care and send him or her to the hospital, when she goes there she passes out of my hands. I have no further control of her unless she comes back and is not cured, and then I take charge of her again. I live in a county some distance from a hospital; if I call a surgeon to assist me in an operation, according to the financial stand-

ing of the patient, and expects me to arrange for the fee to a certain extent, and I have to have some understanding as to what the surgeon is to get and what I am going to charge. Now, if it is a crime for that surgeon and myself to have some understanding, and some fellow in the society is going to bring charges against me with a view to turning me out of the society, where are we going to draw the line?

R. C. McChord, Lebanon: You charge for your services up to the time the surgeon takes charge of the case, and then when the surgeon is through with his work, let his charge be separate and distinct from yours. Let the patient know what you charge, and let the patient understand what the surgeon charges. It makes no difference what you charge so long as the patient knows what the charge is.

Z. A. Thompson, Pikeville: I do not want to be turned out of the society because of having an understanding with the surgeon in regard to what the charges are to be.

The President: I do not see why this matter should be referred to our County Societies for settlement. We are the County Societies, and we have here delegates representing these societies, and let us dispose of this matter ourselves. If it is thought wise to do so, let us publish these facts in the public press so as to inform them of the evil. I believe that is the recommendation of the committee, to dispose of it ourselves, and not submit it to the County Societies, and publish it in the press of our State.

W. W. Anderson, Newport: I would like to ask whether Dr. McChord's motion to refer this to the county societies for a meeting with the laity is open for discussion?

The President: It is.

W. W. Anderson: Then, I would like to remark that in the county societies and in the profession among the specialists and general practitioners this matter needs discussion and light thrown upon it in the profession before too much is said on the outside. I am satisfied that doctors generally do not understand this question very clearly themselves, and to my mind if we spread this thing broadcast we would cast suspicion upon the profession that is not united upon the subject. It is better to get the profession to understand it clearly first. (Applause.) These gentlemen have discussed this matter sensibly, but the thing is to let it be understood between us as general practitioners and the specialists, and when we come into inter-relation over some patient let it be said that we charge so much, and the surgeon or specialist will charge so much. Let the general practitioner advise with the surgeon as to what the patient is able to pay.

Let us have no secrets. Let everything be open and above board. The patient will know, or should know, what he is paying me. The patient should be given to understand that the general practitioner is taking an extraordinary risk if his case does not turn out well; that the general practitioner is the loser, and consequently he should be compensated reasonably for the risk and the extra quality of service. He should expect more than an ordinary fee, and should so inform the patient. He should inform the patient that the other man's fee will be so much. But above all, let us get a clear understanding in the profession before we begin to thresh it out in public while we are still disunited before the laity.

J. W. Acton, Kingsville: Suppose I have a patient who is not able to pay more than \$100.00, and she or he is to be operated upon, and I refer the case to my friend Carpenter to do the operation, he has to take chances on the patient not being able to pay more than \$100.00. Suppose his fee is \$100.00, and I have the \$100.00, who is going to get it?

The President: Both will get it.

D. O. Hancock, Henderson: I do not happen to be a delegate, but I would like to say a few words on this subject.

It was moved and seconded that Dr. Hancock be extended the privileges of the floor.

Dr. Hancock: In a city like Henderson, where there are general practitioners and specialists living in the same town, we do not have to send patients off to Louisville or to some other large city to be operated on, because we have men who are capable of operating on them. If patients were examined more thoroughly and correct diagnosis made, in my judgment, there are very few surgical cases which would not have a real medical side. It is true, some surgeons do not study medicine, and they know very little about it, and they need the services of a general practitioner in their cases. He is their essential person. He is at home where he can do it, and he is the proper man to do it. The surgeon should hold the general practitioner in the case and not kick him out. Is it not right for any surgeon to kick the general practitioner clear out of the case. He is a part of the case, and the surgeon should keep him all the way through. Let the general practitioner charge for his services, and the surgeon charge for his services. Let us bear in mind that there are but few surgical cases that do not have essentially a medical side, and that the general practitioner can do better than the surgeon.

R. C. McChord, Lebanon: My resolution is to bring this matter before our societies and let the public understand where they stand.

There is no objection to the general practitioner charging for his services so long as he makes it plain to the patient that he is charging for his services so much, and that the surgeon is charging so much for his services, separate and distinct. If the surgeon can turn back the case to the medical man for treatment after the operation, it is his duty to do it. Let him charge his fee; but so far as the division of fees is concerned, it is a practice that ought to be condemned.

W. B. McClure: I move as a substitute for the motion of Dr. McChord that this question be referred to the county societies for consideration among themselves instead of for consideration with the public.

Seconded.

The President: Personally, I do not think it should be referred to the county societies. I think we should decide it amongst ourselves. We can recommend it to the county societies for consideration and publish it in the papers, even though it may cost us a few dollars to do so. If we believe it is a practice that should be condemned, we ought to publish this fact. If we believe it is wrong, I think we should adopt this resolution and have it published in the newspapers.

W. B. McClure, Lexington: My reason for the substitute is this: Dr. Anderson suggested that if we bring his matter before the public it would increase their suspicion of the medical profession. We all know the public is suspicious of the physician. There is a suspicion on the part of the laity that those who are engaged in the practice of medicine are trying to do them up, and we would only increase that suspicion if we go before the public and say that the surgeon and general practitioner are accustomed to divide fees. It is an exception, and yet we indict the whole medical profession in their minds. Therefore, I believe it is unwise at the present time to bring this matter before the public and discuss it with them. I believe we should thresh it out among ourselves and settle it, and let the men who are guilty of this practice know they are going to be expelled from the society if they continue to do so, and it will be the greatest preventative we can administer.

The Secretary: When Dr. McClure and Dr. Anderson talk one cannot help but be convinced. But there is another phase to this question. A man came to the hospital and wanted an operation done for the radical cure of hernia. I told him what the charge would be, and he said he could not pay that much; that he would go to Louisville and have the operation done. I told him to go ahead. He went to Louisville, had the operation performed and came back. Shortly

after this a fellow moved to Louisville from my town who needed an operation for hernia. This man who had been previously operated on wrote to this fellow and said that the surgeon who operated on him was a mighty good man; that he was a mighty good surgeon, and he told him to go there and said, "He will operate on you and I will get 50 per cent and I will give you 40 per cent of it." (Laughter.) It is time to begin talking to the laity or somebody else about the pernicious evil.

W. B. McClure: That is an exception.

R. C. McChord: I accept the substitute offered by Dr. McClure.

The president then put the substitute, and it was carried.

G. A. Hendon: I would like to ask whether the committee on the division of fees is to be considered discharged now that its report has been made?

The Secretary: Under the by-laws this is a standing committee of the House of Delegates.

It was then moved and seconded that the report of the committee on division of fees be adopted. Carried.

REPORT OF COMMITTEE ON PRINCIPLES OF ETHICS, JOHN G. RENAKER, CHAIRMAN.

Gentlemen: We are here today representing the great body of physicians of the Kentucky State Medical Association as their committee on the principles of ethics. If we can by acts or suggestions add anything that will aid in disseminating the spirit of brotherly love and upholding the dignity of our profession, our time shall have been well spent. There is nothing to my mind that will so elevate us generally as it would for us all to be at peace with one another, working in perfect harmony, and having in view the relief of suffering humanity, instead of monetary gain for self regardless of what other physicians think of us, and never having in mind the welfare of a professional brother whose character and reputation we are stigmatizing in our greedy rush. I am glad to say that this applies to a minority, but in his time and age, when the natural tendency is towards graft and self gain, some in our profession have been infected, and the remedies we have at hand do not seem to possess sufficient potency to overcome the symptoms too numerous to mention that make their appearance in various ways. They have thrown the cloak of fair dealing and honesty aside and resolved to obtain patients and practice in any way they can. These are the don't care kind, who never give a thought to any one but self. There are others who are not so bold, but will practice different ways on a smaller and clandestine scale, having in view the same goal for which the more

blind ones are seeking to attain. These in my opinion are the most dangerous. They are a regular snake in the grass. They claim they are doing unethical for the reason the principles of ethics do not explicitly condemn them. Still in the eyes of God and man they do not and in their own mind they know they do things that are wrong. But the last spark of a gentleman in this respect has left them, and they will not confess their shortcomings. I hope you gentlemen will not surmise for a moment that I am condemning the principles of ethics of the American Medical Association, for I am certainly not. They are good, and I deem them quite sufficient to keep all physicians who are gentlemen in strict bounds, but I am sorry to say that all or not so constituted. As long as time lasts we are bound to have black sheep among us, as is the case in every vocation of life, and all that might be written or said will fall on some deaf ear. I do believe the principles of ethics should be made more explicit and added to such an extent that in time a majority of the minority would see their evil ways and anxiously grasp the opportunity to turn to the straight and narrow path of fir dealing with their professional brethren, and so let their light shine that others might see their good works and profit by them.

I also believe in standing together, enforcing the laws of our society, and if they are not strong enough, draft new ones, and when occasion demands turn the offenders over to our courts of justice. By his manner the unethical and the criminal ones could be shown up in their true light, and they would cry for the rocks and the mountains to face and hide them from the wrath of a united medical fraternity that stands for all that is elevating and a square deal for every one.

We have all been too lenient in allowing such practices to go on unnoticed, and I am sure there are many who could point out a criminal abortionist, but still they go on practicing their death-dealing specialty unmolested, when a few warnings might cause them to change their ways. Not a few witnesses could be gathered together whose testimony would send them to the penitentiary, where they properly belong. Of course, those of this stripe, if not punished in this world, will receive their just reward in the world to come. For it is the declaration of our Holy Father in Heaven that "Whatsoever a man soweth, that shall he also reap."

I should suggest that we recommend a revision of our principles of ethics to conform with those of the American Medical Association, make them more explicit, adding to them so the subjects may be covered more thoroughly.

We all know that there are a thousand

different unwritten ways to show an ethical spirit and as equally large a number to show an unethical one. Right here I want to say that I think a great deal of good along this line right in the beginning of one's training for the medical profession could be done if our medical schools and universities would devote a little more time to this very important subject.

Well to I remember the training I had along this line during my three years college course. I heard one short lecture devoted entirely to this subject, and that was given at the earnest solicitation of some of the members of the graduating class. Some no doubt will say that was quite sufficient and I heartily agree that it was for the majority and did more good for them than a series of such would do for a few who were differently constituted, and had no regard for right or wrong when dealing with a professional brother as long as they were benefited in a monetary way. But even our best are only human and liable to err at times. They are alert and quickly see their mistake and the same thing does not occur again. So I think more thorough training along this line during the college course is one of the first great steps.

Revising our principles of ethics, and going into details more fully on the different subjects, making them so explicit that there would be no excuse for any one to claim they did such a thing through ignorance.

The practice of accepting patients who were formerly under the care of another physician and deserted him with an unpaid bill, which is just and honestly due, is a frequent occurrence when at the same time the physician accepting is fully acquainted with the fact. Making and collecting a fee for another physician when associated in the same case without instructions to do so, is not right. Holding post mortems without the knowledge and consent of the physician previously in charge; accepting cases, no cure, no pay, patronizing druggists and pharmacists whom we know to be counter prescribers or one we know will substitute, these and many others show the unethical spirit.

I have known of physicians being so anxious and greedy for patients that they would approach a person on the street whom they knew to be customers of a brother practitioner and solicit them for their business and still these same ones will profess to do a strict ethical business and claim to be as honorable as Socrates.

I have had quite a number of my patients tell me of being solicited. Of course, the "all-wise healer" would get some of them, but have noticed that a majority always drifted back

after the reaction to where they properly belonged.

I have always thought it a good rule to keep in mind that indisposed people would unusually ask for what they wanted in the way of advice and medicine from one of their own choosing. But it seems that some physicians have it just opposite for the ask the indisposed for what they want, but generally don't get it, but some have the staying qualities of a bulldog for if at first they don't succeed they try, try again.

The President: You have heard the report of the committee on principles of ethics. What disposition do you wish to make of it?

R. C. McChord: I move its adoption.

Seconded. Carried.

The Secretary as the representative of the Pure Drug Commission made his report. (See KENTUCKY MEDICAL JOURNAL, September 15, 1910, page 1852.)

It was moved that the report be adopted. Seconded.

W. W. Anderson: I was asked the other day by a barber whether the pure food and drug law applied to the lotions commonly used in barber shops after shaving. I told him I did not know but that I would try to find out. I do not find anything made perfectly clear in the law with regard to that and I would like to know if that is the case. Alcohol is an important constituent in most of these lotions that are used on the face and he said originally, when the national pure food law went into effect lotions were sold over the interstate line containing a certain percentage of alcohol and of late do not contain that percentage and there was a marked decrease in the amount of alcohol. It does not take hold or bite on the face.

The Secretary: The law applies to everything. Every liquid or solid substance used as a food or drug must have a label on it. If there is a label on it, it must tell the truth and there must be a label stating that it contains alcohol. Anything that comes under the State law must have a percentage of alcohol plainly stated on the label. There has been only one case, so far as I know, under that section of the law, and that was in regard to some liniment, possibly chloroform liniment, which did not state the amount of chloroform used.

L. T. Hammonds: What are we going to do in those cases where a man tells the truth and yet does not comply with the law? There is a preparation in Kentucky being sold in my section of the country which is represented as being sold with an old label on it before the pure drug law was established. The old label says 34 per cent alcohol. There is a lot of tissue paper placed over that so that it can be

plainly read, and then another label is placed on it stating 18 per cent alcohol; and yet the people who drink it say it is as good as it ever was. The label tells the truth, yet it does not comply with the law. There is too much alcohol. Originally the preparation contained 34 per cent. of alcohol and the party that buys it understands that.

The Secretary: If you can get a couple of packages and have them sent by the County Board of Health to the Pure Drug Department, Lexington, Kentucky, the samples can properly analyzed. Under this law no drug can contain on the wrapper or package or container any statement in regard to its curative properties that is not true.

On motion of Dr. Rodman, the House of delegates then adjourned until 8:30 A. M., Wednesday.

SEPTEMBER 17th,—THIRD SESSION.

The House of Delegates met at 8:30 A. M., and was called to order by the President.

The President called for the report of the committee on Medical Defense, which was presented by Dr. John J. Moren, Chairman.

Dr. Moren stated that: "The committee had one suit on hand but it never went to trial, and so far there have been no suits since then. The question that comes to-day is whether we should change the present plan of defense. As is known, the present plan is the voluntary plan, that is it is left entirely for the members of the profession as to whether they shall join this medical defense branch or not. I have corresponded with quite a number of men in different States, and I must say that there are something like 15 different State medical societies that have the defense plan and every one reports success, not a grumble has been mentioned in any State I have corresponded with. They are all more than satisfied with the plan and it is a settled question that co-operative medical defense is a sure thing. That is demonstrated beyond the possibility of doubt.

The only question that occurs is whether we shall continue our present voluntary plan or whether we shall make it mutual. I have corresponded with several who do not approve of the voluntary plan and say it is no good.

Dr. F. B. Tibbals, Chairman of the Medico-Legal Committee of the Michigan State Medical Society, informs me that they had a county medical defense in Michigan and they charged an initiation fee of from \$3.00 to \$5.00 and it was confined solely to the county members. I wrote to him to criticize the plan and he says:

"In friendly criticism of your plan, I beg to say that no voluntary plan can succeed

except in a small community where the personal influence of two or more members may succeed in getting enough men to join to make a success. The plan will not work in a whole State and you have proved it."

After your members join, pay a \$5.00 initiation fee and subsequent annual dues; they have no guarantee of defense because your County Committee may refuse defense to any man, thus prejudging his case and making it much harder for him to defend himself.

Every man is innocent until he is *proven* guilty and the court and jury constitute the only tribunal competent to determine the legal points upon which depend guilt or innocence in civil malpractice.

Every member is entitled to use the machinery for defense in making what defense his case allows him. If the facts show him negligent or incompetent, he is guilty and no defense can save him. No man is actually *defended*—he is given the use of the attorneys and their files of court decisions without extra expense, and thus presents the facts in his particular case and the law in its application to these facts, in the strongest way possible to the only tribunal entitled to pass upon them.

The experience of all efficient State plans shows that mutual defense is cheap and effective."

Dr. Arthur J. Patek, Milwaukee, Wisconsin, says:

"Your letter of the 20th inst. with reference to Medical Defense has been referred to me as Secretary of the Defense Committee.

Our experience has been extremely satisfactory. The defense is practically obligatory, and although we have not insisted upon every one paying the \$1.00 fee for defense, but few have refused, and it is not at all likely that we would feel compelled to defend these few.

We believe defense to be a splendid means of attracting members to our Society, and I personally am of the opinion that voluntary plan is not nearly so good as an obligatory one, because under the latter system only can one have a sufficient check upon cases and prevent law suits, any one of which may act as a precedent in an individual case. We have had some suits; one or two have been settled out of court, several are being tried now or will be soon, some were thrown out, and in quite a number verdict for defense was given. We have a most excellent and trustworthy lawyer in charge of our affairs, and this is the one great essential.

"If I can be of any further service to you please command me."

Dr. E. W. Weis, Secretary Illinois State Medical Society, says:

"I do not like to criticize your Constitution and By-Laws, as somebody evidently has labored for quite a while to produce it, but if you will take my criticism in the spirit in which is given I shall be glad to offer it. I do not know whether you have already adopted this Constitution and By-Laws or not; if you have, I do not know if it would be of sufficient import to make any great changes. I would rather operate under a poor constitution after one gets acquainted with it than to be constantly tampering with it with amendments.

"I am sorry to see that you have used the word 'Protective' in it, as in section five of your Constitution you use the words 'Protective Association' a number of times, which is contrary to the meaning of it as given in section one. There is no protection, and guarantee none—all that you do guarantee is to defend. This may be splitting a hair, but it sounds better when questioned upon in the witness stand.

"The general scheme as outlined I do not think is as good as it might be. Your system is certainly rather complicated. My opinion is that every member of the State Association should be compelled to participate in the benefits of this medical defense whether he wants to or not. The fee is such a ridiculously small one that all doctors who are not threatened or liable to become a defendant ought to be glad to assist in the upholding of the reputation of the few unfortunates that are attacked. The benefit to every one either directly or indirectly is a great one. The besmirching of the reputation of a physician in any community effects to some degree those other physicians residing in the same community. Therefore, my argument is that every doctor has an interest in the welfare of this defense in the same proportion that he has the interest of the general medical profession at heart.

"I would cut out as soon as I could the question of voluntary membership. We had some little trouble in our original organization but it did not come from over 2 per cent of the members, and they were from old practitioners who had managed so far to escape malpractice suits, although I have no doubt that they had been threatened at some time or other. I can multiply arguments on this score indefinitely, but I think the above will suffice. Your local committee determines whether or not a suit should be defended and is a superfluous one, as that can and should only be determined by the executive committee. We have a committeeman in every county. He is the first one to be notified, and he in turn immediately notifies the executive committee, who then takes charge of the case. It is for the

executive committee having the law directly at hand and all the authorities that are necessary to determine the questions and it is the one that should look after every case, whether suit has been brought or merely threatened.

Another bad feature that I notice is that you emphasize that no compromise will ever be made. This I think is bad, because it is cheaper occasionally to effect a settlement than to defend even to the court of last resort. Unfortunately for the medical profession, as any other, we have some who are substandard in grade. To speak plainly, they are lazy and indifferent and do not give the case the attention it deserves. In such cases it is cheaper and best to settle or compromise. But of course that should only be done upon the advice of your counsel. With more money in your treasury you can pay your counsel a generous retaining fee. You can pay the local lawyers who are interested a fair and reasonable fee. By this means the advantage will be greater to the individual member.

You ought to do as we are doing, make this \$1.00 a part of the per capita of your members. We have a per capita tax of \$2.50, \$1.00 of which is covered into the general defense fund. Our membership is over 5,000; therefore we have \$5,000.00 a year. Our expenses last year were \$3,700.00.

"I notice another bad feature in your constitution, and that is in section 9. This section makes it mandatory upon every member to do what you know he undoubtedly will do. I believe that in some courts if this section were shown to the presiding judge, that he would exclude from the witness chair every member of your association. It proves that he has an interest in the proceedings by that of duty, and if he is testifying as an expert I believe that interest would be sufficient to eliminate him as a witness.

"It is a self-understood matter that every doctor who is a member will do everything in his power to aid you, but it should not be put on paper.

"The above is hurriedly written and contains only a few of the more salient points. If I can be of any further assistance to you, Doctor, let me know. Dr. Arthur T. McCormack heard me read a paper on this subject at St. Louis. If you would like to have a copy of that paper I shall be only too glad to send it to you."

The following plan was submitted and adopted by the House of Delegates of the Ohio State Medical Association, May, 1910:

"It is suggested that the various county societies of the state take under consideration the following plan, which shall become opera-

tive by the House of Delegates, and when adopted by two-thirds of the County Societies of the State by a two-thirds vote of the members present at a meeting duly called for the purpose; the plan not to become operative unless formally adopted by two-thirds of the Counties. The per capita dues of all County Societies which adopt the plan shall be increased One Dollar, making the total assessment Two Dollars and Fifty Cents for such Counties; the per capita dues of all County Societies which do not adopt the plan shall remain as at present, One Dollar and Fifty Cents. To avail himself of the services of the Medico-Legal Committee, provision for which is outlined below, and the State Attorney, each member must pay his dues by July first of each year and no member shall be considered in arrears until after July first. No member shall be defended by the Medico-Legal Committee, or its attorney, for cause or action which arose prior to the inauguration of the work of the Medico-Legal Committee or prior to the formal adoption of the plan by the County Society of which he is a member.

"It is suggested under Chapter 9, Section 1 of the Constitution and By-Laws of the Ohio State Association, under Committees, that such By-Laws be amended to include a Medico-Legal Committee. This Medico-Legal Committee to be made up of five members, three to be elected by the House of Delegates, two to be appointed by the President, two members of such Committee to be residents of a city in the State from which the work of Medical Defense is to be directed. The members of such Medico-Legal Committee to draw lots, one to retire each year, his successor to be annually appointed by the President of the State Society or to be annually elected by the House of Delegates. The executive officers of this Committee shall consist of a chairman, a secretary and treasurer, all of whom shall be elected by the Committee and who shall serve without compensation, with the exception of the chairman, who shall receive a nominal salary for his work; the exact sum to be determined by the House of Delegates or the Committee itself. This Committee shall have power to employ a firm of attorneys experienced in Medico-Legal work at an annual retainer fee, which firm shall serve as advisors of the Committee. This Committee shall also appoint, upon the advice of the Councilor of each District Society, a correspondent for each County Society, who shall hold office subject to the approval of the Committee. It shall be the duty of such County Society Correspondent to receive formal application for defense in any threatened suit or any suit filed against members of his

County Society, such formal application to consist of a written statement from the member desiring defense, containing all facts, the names of witnesses and nurses and attendants, and the dates of his first and last professional care in connection with the alleged cause of action. Such application for defense shall be forwarded at once to the chairman of the Medico-Legal Committee, who shall receipt for it. The member desiring defense shall sign a statement granting authority to the Medico-Legal Committee and its attorneys sole power to conduct the defense and agreeing not to compromise or settle the claim for damages without the consent of the Medico-Legal Committee and its attorney; such statement shall specifically agree that no sums awarded in settlement, compromise or verdict shall be paid by the State Society or its Medico-Legal Committee, and that each member applying for the services of the Medico-Legal Committee or its attorneys agrees not to obligate the State Society or its Medico-Legal Committee in any manner to the payment of any sums whatever. The treasurer of the State Society shall collect the per capita dues of members as heretofore and forward on the first day of each month a statement and remittance of such portion as has been collected for Medico-Legal Defense from members in County Societies which adopt the plan, to the treasurer of the Medico-Legal Committee. The treasurer of such Medico-Legal Committee shall give bond for \$1,000.00. No disbursements are to be made except by action of the Executive Officers of the Medico-Legal Committee, and all checks are to be signed by the treasurer and countersigned by the chairman of such Committee. Such Medico-Legal Committee shall annually report to the State Society through its chairman the suits brought to the attention of the Committee and the disposal of them, together with a financial report covering all disbursements and receipts."

Our membership to-day is only 200. Last year it was 160 odd. I have begged and pleaded; I have tried to steal members; I have tried to buy members, and in every way have tried to get them to join. Many of them have promised that they will join, but so far we have not seen the coin. Why is it? Those I talked to were easily convinced that the medical-defense proposition is a good one. Every one thinks it is all right, but what is the objection? Many of them object to the initiation fee of \$5.00. As you all know, the question of \$5.00 is worth a whole lot to a number of men. They object to that. The men in other states criticise the initiation fee, although it is really an objection which is not

only confined to this State, but to other States as well. The men who are familiar with the medical-defense plan or the initiation fee say that this fee is objectionable. It is an objection that is keeping more from joining than any other thing. In the last ten days I have talked to a dozen men and every one of them told me he would join if we would cut out this county committee. They object to being tried by this committee and a man is not guilty until a court says he is guilty. This county committee is a feature that has held back our membership. Men will not come in. The object of the county committee was a good one, and we must have censors in some form or other to pass upon these cases as they occur. It would be folly for us to go into court and defend every case that comes up. That would be a detriment to the State at large and our attorneys make that point. We should not go into court with the idea that we are going to defend every case. We may have it understood that we will defend all of them, and so far as I am concerned I am willing to help any doctor. I will do my part, but let us have it understood when we go before the court that we will defend all unjust suits. I will venture to say that 99 per cent of these cases are unjust, and we will defend only unjust suits.

The defense committee recommends that you change the county committee in some way and also change the initiation fee.

Here is another objection: "It shall be the duty of every member of this association to aid the Association in every legitimate manner." That would be an objection if we go into court. If you should go on the witness stand and the lawyer pulls out that article of our constitution, it will simply prejudice you and your evidence will not be worth what it ought to be. That could be dropped very easily. The initiation fee and the county committee are the principal objections to the association.

I would like to read a general criticism from our lawyer, and I must say here, gentlemen, that Mr. Hines has been very kind to us. He has never hesitated to give us any information that he has and he wants to do what is right.

"Herewith we return the pamphlets and correspondence criticising the Kentucky plan of medical defense which you left with the writer several weeks since, inviting comment.

"Some criticism is made of the name 'Medical Protective Association' in Articles 5, 7 and 8 of the constitution. It seems that in the original draft of the constitution that was the name used throughout the constitution, but that the intention was to charge the

name to the 'Medical Defense Branch of the Kentucky State Medical Association.' That change was made, however, only in the first article, the word 'Protective' being inadvertently allowed to remain in the other sections. We called attention to this when we first read the constitution, but it was not deemed of sufficient importance to justify an amendment, the first article being controlling as to the name. The name 'Medical Defense Branch of the Kentucky State Medical Association' is certainly very cumbersome.

"We believe that there ought to be no initiation fee, but merely annual dues of \$1.00. We do not believe it would be wise to make the payment of additional dues to cover cost of medical defense compulsory as to every member of the Kentucky State Medical Association. If a man is not willing to have his case defended by the Association he ought not to be required to contribute to a fund to pay the cost of defending malpractice suits brought against others, and yet the amount which a member of the State Association is required to contribute to entitle him to defense ought to be so small that the cost would deter no member from availing himself of the services of the defense association.

"It seems to us the Executive Committee ought to be smaller, and in fact as small as is feasible, but as to that you are a better judge than we are. We would suggest that instead of having a separate committee for each county there be in addition to the members of the State Committee selected from the State at large two members for each county to act as a part of the State Committee only as to cases arising in that county. Under such a plan the right of a member to be defended by the Medical Defense Association would be passed upon only by the one committee.

"By all means do not undertake to defend all malpractice suits without regard to the merit of defense. It may be that in practice all will be defended, but the moral effect upon the court and jury of a provision for determining whether or not the case ought to be defended by the Association is all important. Upon the other points it may be a little presumptuous for us to offer suggestions, but upon this point we feel that we are entitled to speak.

"There is much criticism of the provision of the 10th article that 'In no case will the Association compromise.' We had nothing to do with framing the constitution, and cannot speak with authority as to what the persons who framed it had in mind when they included that clause, but it seems to us the clause quoted has been misunderstood. We interpret the clause as meaning that if any com-

promise is made it must be made by the defendant himself. Of course the Executive Committee would advise a compromise, but it ought not have authority to bind the defendant to pay a specific amount by way of compromise, and in the absence of such authority it could not conclude a settlement. If the constitution is to be amended we think it would be well to add to the words 'In no case will the Association compromise' the words 'Or incur any obligation whatever for the defendant without his approval.'

"The 9th article of the constitution providing that 'It shall be the duty of every member of this Association to aid the Association in every legitimate manner' might be used to discredit members of the Medical Defense Branch as witnesses for each other, and so I think it ought to be omitted.

"It has been suggested that the cases to be defended ought not to be confined to malpractice suits. That may be true, but it seems it would be rather difficult to draw the line if the defense is not limited to such suits. That the nature of the suits to be defended must be specifically described in the constitution seems clear to us, since otherwise the room for favoritism would be too great. Of course the same objection applies to some extent to the provision that only unjust malpractice suits are to be defended, leaving the Committee to determine whether or not the particular suit is unjust, but that provision is necessary for the reason that its omission would prejudice the defendant before the court and jury.

"In the event an initiation fee is no longer required, how is justice to be done to those who have already paid that fee? It has occurred to us that you might afford to offer to credit the amount on the future dues of any member demanding within a limited time that that be done, but putting the offer in such a form that but few members would avail themselves of the privilege.

"Is there any real necessity for a separate constitution for the Medical Defense Branch? Especially does that seem unnecessary if there is to be no initiation fee. It seems to us that an amendment to the constitution of the Kentucky State Medical Association authorizing a Medical Defense Committee would be better, or it may be that a by-law would be sufficient. We have not examined your constitution to see whether or not an amendment would be necessary, but we assume that it would be, as additional dues would be required.

"If we can be of any further service in this matter, please let us know.

"Very truly yours,

"McChord, Hines and Norman."

The Executive Committee has talked this question over. We had a meeting last night and we have come to the conclusion that it would be better to make this an actual plan rather than a voluntary plan and instead of an initiation fee and additional dues to the State Association, which can be accomplished by an amendment to the by-laws in regard to the fees, and so we have decided to recommend that you increase the dues 50 cents or \$1.00. Fifty cents was the agreement last night, thus making the dues for the State Association \$2.50 instead of \$2.00. In this way we do away with the initiation fee for medical defense, making \$2.50 the regular dues to the State Association which will furnish us medical defense in malpractice suits. You can easily amend the by-laws to form a medico-legal committee and do away with this long-named "Medical Defense Branch of the Kentucky State Medical Association." Call it the Medico-Legal Committee.

Another point is with reference to the name. I think we should do away with the word "defense." We should not use it unless we have to. Again, let us stop printing matter about medical defense in the press, but let it be known to the members of the Association that we have a medico-legal committee for the benefit of the doctors against whom malpractice suits are brought.

Another thing. Let us do away with by-laws as far as we can. Give the Executive Committee or Medico-Legal Committee as broad a field as possible. If it is necessary to defend a practitioner, give us latitude. Give us authority, so that we can go ahead, and after we have defended a suit properly and successfully, do not ask us how we did it, so long as we did it. Results are what you want.

Look at the number of men who have been sued outside the State branch! This is certainly a most excellent thing and the more I study it, and the more I read about it, the more confidence I have in it. I have confidence in our attorneys and I am quite sure we will be in good hands in case we have malpractice suits.

In regard to this medico-legal question, I have not written out this amendment as fully as I might have done, but here is a plan that has been suggested: To change Article 8, Section 1, by adding "Medico-Legal Committee." Section 5: "The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the council for five years, and the Secretary and Treasurer shall be the other members *ex officio*. This committee shall select and arrange compensation for a General Counsel and furnish legal defense for members

in good standing against unjust malpractice suits."

The President: You have heard this very important report of the Committee on Medical Defense. What disposition do you wish to make of it?

J. N. McCormack: I move that the report be referred back to the Committee with instructions to report at the next session of the House of Delegates an amendment in the exact form in which the members of the Committee wish it to be adopted so that we can act upon it.

Seconded. Carried.

The Secretary: The time has arrived for the general session, and I move that Dr. Frank Billings, of Chicago; Dr. Daniel N. Eisen-drath, of Chicago; Dr. Cressy L. Wilbur, of Washington, D. C., be made guests of the Association and invited to participate in the proceedings of the general session.

Seconded. Carried.

On motion, the House of Delegates then adjourned until 8:00 a. m. Wednesday.

September 28—Fourth Session.

The House of Delegates met at 8 a. m., and was called to order by the President.

W. W. Richmond: I want to supplement my report, in that I reported 80 members short, and I did that on account of having had an incomplete report from the Secretary which showed my district 80 members short. On getting a final report in the mid-monthly JOURNAL, it showed that, according to calculations, I was 7 members short, but on arriving here I learned that the McCracken County Medical Society turned in 7 members since that report was made, making up the deficit, and leaving my district on a par with what it was a year ago.

W. W. Anderson presented the report of Committee on Medical Education, as follows:

Your Committee on Medical Education notes with pleasure the substantial progress which we are making in Kentucky and throughout the United States in raising the standards of medical education.

The years of faithful endeavor, directed to this end by the American Medical Association through its Council on Medical Education, are bearing fruit. The work of the Carnegie Foundation, an intense and forceful effort to the same end, is serving a like useful purpose. We especially commend to the favorable attention of the profession of Kentucky the recently raised standard of entrance requirements promulgated by our State Board of Health, which requires at least a complete high school education preliminary to undertaking medical college work.

Let it also be noted with approval that the medical department of the University of Louisville, which is in a transition stage to better things, is raising the standard of its work and requirements. It is earnestly to be hoped that both the state board and the university will in all sincerity, and with all possible speed, raise the standard still higher, so that at least one year of college work shall be demanded preliminary to medical training. We do not need many more doctors, but we do need better ones. The standards of medical education in Kentucky must keep pace with the best standards elsewhere, in order that the glory of medicine in Kentucky be not dimmed, and that our reciprocity privileges be not impaired. In this connection two duties rest upon the physicians now in practice. One is this: that all appeals from the physicians in behalf of sub-standard students cease. One of the perennial nuisances to all medical colleges is the continued demand and pressure from members of our profession seeking the lowering of standards in favor of particular students. There is no college of so low requirements or such poor work that there is not a doctor who seeks the entrance and graduation, and the licensure of men even below its meager demands. Let all physicians refuse preceptorship to sub-standard students.

The other and still more important duty of the general profession to medical education is the duty of raising the standard of education among those now in practice.

Too many doctors have gone to sleep right where they got into the professional bed. They are in continual danger of falling out, and their progressive bedfellows ought either to get them more securely into the bed or kick them out of it.

The history of the past, the needs of the present and the requirements of the future unite in demanding that the physician of today be an earnest student of his science and a thoughtful practitioner of his art. It is not in average human nature to travel the hard road of medical learning alone with due speed and joyous enthusiasm. Most of us need the stimulus of congenial companionship in order to do our best. The County Medical Society offers the opportunity of such companionship in study. The outlined course of post-graduate work systematizes the effort at progress. We earnestly recommend that this work be undertaken with serious purpose throughout the state. The practitioner who will not study will soon be outstripped by the better equipped recent graduate. The doctor who wants to study will accomplish more with the

co-operation of his confreres in the County Society post-graduate course.

(Signed) W. W. Anderson,
George P. Sprague.

The President: You have heard the report of the Committee on Medical Education. What will you do with it?

I. S. Manning: I move its adoption.

Seconded and carried.

Report of the Committee on STATE JOURNAL.

Hugh D. Rodman presented the following report:

Your committee on the STATE JOURNAL wishes to report that after comparing the administration of our JOURNAL with that of other state journals, we are led to believe that in many respects our JOURNAL is the most ably edited and successfully managed, and the most practical, of any state journal in America. We especially commend, not only the literary and scientific features, but we commend also the management on the full, plain and concise manner in which our financial condition has been stated, which enables each and every member to see at a glance our financial standing, and what has become of our funds which have been intrusted to the officers of our State Association. We also believe that under present conditions it would be a difficult task to improve our JOURNAL, but should we make any suggestions it is on the lines of establishing a question and answer department.

(Signed) Hugh D. Rodman
C. B. Creech

Committee.

The President: You have heard the report. What disposition will you make of it?

Curran Pope: I move its adoption. Seconded.

Virgil E. Simpson: The only departure from the usual orthodox procedure in this report is the question and answer department. Personally, I do not believe it would be a good thing for this House of Delegates to go on record as favoring the adoption of a question and answer department in the JOURNAL. Unfortunately we have not a uniform brand of brains in the medical profession, and fortunately every man has not the same amount of information. Unfortunately some people in the medical profession, as well as elsewhere, will ask questions which 90 per cent of the members of the profession already know, or which they with a little trouble could find out. If we throw open to the profession a question and answer department it will occupy considerable space, and space means money, and money means a great effort to secure advertising matter, and a lot of fellows will want questions answered which 90 per cent of the remainder of the profes-

sion already know. It would consume valuable space, and I do not believe it would be a good plan.

Hugh D. Rodman: It was hard to get the members of the Committee together, and one member advocated a question and answer department. I made the suggestion on the recommendation of an associate member of the Committee. I agree with what Dr. Simpson has said. I have seen questions and answers in some journals that were very silly. There is no question in my mind but that questions and answers will enable a practitioner to get information on a certain point, but if he took a little time he could doubtless find the information in his library. For that reason I yielded to the opinion of my associate member on the Committee. I shall not insist on the adoption of the suggestion. It is merely a suggestion. It can be straightened out, if it is not in absolute accordance with the views of the members of the House of Delegates.

The Secretary: Of course, this recommendation will go to the Council for action. There is one other thing: we have been requested frequently to open a department of medical news, and we would like to have items about everything the doctors do, and everything the people do to doctors, that it is possible to print. We do not want items that are not printable, but such items as are of interest to the profession generally.

The motion to adopt the report was put and carried.

The report of the Committee on Medical Defense was called for.

The Secretary stated that the Committee recommends that Chapter IX., Section 1. By-Laws, be amended so that the annual dues be raised from \$2.00 to \$2.50, and the Council be directed to place the 50 cents in the reserve fund for defense against malpractice suits, and that Chapter VIII. on Committees be amended by adding "A Medico-Legal Committee" to Section 1; and that Section 5 be added as follows:

"Section 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and the Treasurer shall be the other two members *ex officio*. This Committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and, if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice."

It was moved and seconded that the report be adopted.

Curran Pope: I would like to discuss this report. The members from Jefferson county will recall the animated discussion which took place between Mr. Hines and myself in regard to the medical defense proposition at the time it was brought up in the Jefferson County Medical Society. Personally, there are one or two points in this matter I should think should be left open to the individual members and I took issue with Mr. Hines at the time. In the first place, I do not think any doctor, who is to undertake the defense of any suit, should be, as the gentleman seems to intimate, limited to the lawyers who were selected by the Defense Committee to defend him. That was a point held by Mr. Hines, that their firm has the sole right to select not only associate counsel, but counsel having full power and authority as the counsel selected by the Defense. In other words, I put it to him in this way, that if the firm were *persona non grata* to me (which it is not), I would like to have some person who was *persona grata* to me to represent me and take my view of the case, no matter what it might happen to be. For that reason it should be distinctly understood that the doctor who is subjected to a malpractice or other suit, and who has counsel from the Defense, should have the right to have his own counsel with full authority alongside of the counsel for the Defense. I think this is a very, very important matter to doctors. That is the first point I want to make.

A second point is the point that this committee should not have the right to decide as to whether a suit was to be defended or not. The argument was made that a doctor might not be reputable, and the suit might be just. My argument was that the defense should defend every doctor provided that doctor was in good standing in his County Society. If he is not all right in his County Society, put him out. It is your duty to see that all good men become members of the County Society. If a doctor who is in good standing in his County Society has trouble come to him in his line of work then it is very essential that he should be given every protection that can be meted out to him by his profession, and I do not believe that the committee should be granted plenipotentiary power to decide who shall not or who shall be defended in our particular line of defense; that the defendant should have his particular counsel and if he is a reputable member of the County Society he should under any and all circumstances be looked after.

The Secretary: Of course, there can be no question but that a member will have the right to his own lawyers to the exclusion of the lawyer of the Association. In the case of Dr. Pope, he would not need a lawyer. He could defend himself, and when he gets on the floor he makes me believe what he says when I know he is wrong. (Laughter.) He is certainly wrong on that second proposition. I hope the time will never come when this Association will put itself in the position of defending any man because he is labeled doctor, and especially because he is a member of a County Medical Society. We have certain rights as members of County Societies. We have the right to participate in the work of this Association because we are members of County Societies. We have a right to respect members, but that right can be forfeited, the only just suit for malpractice I ever heard of effected one who was then a member of our largest County Society and the Court of Appeals has decided it was malpractice. This was certainly a just suit for malpractice. There is not the slightest question about that. On the other hand, take the large body of our membership, if we go into court, and let it be understood by the lawyers for the defense that this great Association, with its power and influence, will defend any man charged with malpractice, whether guilty or not, it would prejudice our case, and it ought to do so. It ought to prejudice it, and I would not care to be defended by the Association under those circumstances. I would take the first horn of the dilemma and take my own lawyer. The Association is not going to assist me in my defense, whether right or wrong, under such circumstances. Any committee selected by the Council—and you all know the membership of the Council—would hear the evidence in the case of Dr. Pope, for example, but would not hear the other side, and if he could not convince three members of the Council that his case was just, the thing for him to do would be to turn what evidence he had over to the defendant's lawyer and plead guilty, because if these men, associated with doctors, with the highest ideals of medical practice, do not believe his case is just, he would have a hard time before any law court or jury. The idea of the Committee has been to do away with all the complicated, objectionable things, and practically all their report is based on perfectly plausible and reasonable objections that were raised so well in the JOURNAL and in the various County Societies by Dr. Pope. They have wiped out every single thing that he has objected to. The rule is made so flexible and

so simple that I am confident it will be successful and it will meet with the approval especially of a legal expert like our friend Dr. Pope.

Curran Pope: I think our Secretary possesses a little bit of the golden brush himself. (Laughter.) But here is a point you must bear in mind. You are to think of it. You are taxing every member 50 cents per annum. You are separating that 50 cents into a single fund. You have received pay. What about the *quid pro quo*? You must look at the other side. I go into court with free hand and pay you 50 cents. Suppose there was something that would give it a technical fault or turn and I was in the wrong?

The Secretary: Men who will split hairs on the technical faults of physicians are not on the Council, and will not be on the Committee, if it is created. (Applause.)

Curran Pope: You must bear in mind you have taken the pay. You are in honor bound to give service if there is any provision that gives the *quid pro quo* for the pay. When you realize that you are increasing your State dues you may not have your protection. I want the members who go into this to feel that helpfulness, that power that comes from the feeling that the great body of the medical profession is back of them.

W. W. Anderson: The thought of this thing is that it shall be the duty of this Committee to protect the interests of every member accused of malpractice, but it is not the thought that when a member is accused of malpractice and is evidently guilty he should be defended without compromise. It is not the thought that we should put our selves in the position of standing back of that man, right or wrong. This new Executive Committee will protect his interests. He will be advised by the Council, by the society, by the Committee, that his interests will be protected. It is not to our best interest to go into court when the case is against him, but the Committee will assist in setting the matter to the best advantage. He is getting his *quid pro quo*, Dr. Pope. As for taking his 50 cents, that is taking very little. Whether it is found necessary to take 50 cents or whether we can defend every member and protect his interests without increasing the per capita is a matter of some doubt, but I will not insist upon that, but I believe it can be done, but if it can be done for 50 cents, well and good. For the 50 cents we are getting a lot for the money, as commercial insurance companies charge \$15.00 for the same service, and are nothing like so well equipped for an effective defense as we are.

Virgil E. Simpson: What are the exact

recommendations that have been made? Do I understand that the Council shall be given charge of the matter and work in connection with this Committee? Is that the idea?

The Secretary: The Council shall create the Committee.

Virgil E. Simpson: And the Committee shall consist of the Secretary and Treasurer and one other man, and he be elected for five years, and these men to take the place occupied by the Executive Committee of the Defense Branch. Dr. Moren will, in all probability, not serve as chairman of that committee, and I am authorized to speak for him under such conditions. It is not the best, as he views it, for the authority to be placed in two officers elected by the Association and one man selected by the Council. It is the concentration of too much power in the officers of the Association who already have sufficient duties to perform, and we will object most strenuously to such an arrangement. Dr. Moren asked me to make this statement, that he does not believe it to be wise, and it is not thought such a plan should obtain.

The Secretary: Dr. Moren made a speech to the House of Delegates in which he recommended practically this amendment. I did not know that he had changed his mind, although it is easy to understand that he would accept so much responsibility with conscientious doubt.

Virgil E. Simpson: He has changed his mind with reference to the number selected, but not with reference to the other matters.

The Secretary: I am satisfied that his reasoning before he changed his mind was correct. There is but one member under this plan. There are three members of the Medical-Legal Committee—the Treasurer, the Secretary and the Chairman of the Medical Defense Committee. The Chairman of the Medical Defense Committee has to do all the work, and the Secretary and Treasurer make the collections and payments and support the Chairman.

That is the only reason why we are put on the Committee. There is only one man. I do not care whether the Committee consists of one man or forty men, the Council has charge of the work of the Committee under this plan. In that way the members have the backing of the Council, and the Council, in turn, will always have the moral support of the entire profession of the State. This is practically the provision in New York, where they have defended 400 suits. This is the provision in Illinois. The Secretary of the State Association is compelled to be in touch with the membership in such a way that he

can advise the Chairman of the Medical Defense Committee in regard to a great many matters on organization that are essential. The Treasurer is charged with the financial arrangements and will understand the arrangements in regard to expenses. The Chairman of the Medical Defense Committee will know about the legal matters.

At the conclusion of Secretary McCormack's remarks, there were cries of "Question, Question!"

The President then put the motion and the report was adopted unanimously.

J. N. McCormack offered the following:

Whereas, every interest of humanity and economy demands that a fully equipped psychopathic hospital be established for the reception and treatment of all acute cases of insanity, and that physicians be appointed to treat it, men being especially trained for this important work; therefore, be it

Resolved, That an abstract of the papers of Dr. Billings and Dr. Pope and the discussion be sent to all legislators and state and county officers and published in all the newspapers, and that this Association pledges its members to active co-operation with Col. Scott and his colleagues on the State Board of Control in securing the necessary appropriations for such a hospital and for such legislation as will require that no physician shall be appointed to any asylum position who has not graduated from a recognized school of psychiatry.

It was moved that the resolution be adopted. Seconded.

W. W. Anderson: I am heartily in favor of this resolution if the authors of the papers or the Council will make the abstracts.

Curran Pope: Let the authors make the abstracts.

J. N. McCormack: I will say that Col. Scott is thoroughly in sympathy with what we want in this regard. He recognizes the difficulty, as we all do, and the time has come for reform in our asylums.

The motion to adopt the resolution was put and carried.

W. E. Senour: I wish to present the following:

Resolved, That this House of Delegates recommend the sterilization of habitual criminals and feeble minded persons by vasectomy or similar operation without castration.

It was moved that the resolution be adopted. Seconded and carried.

The President: Are there any other committees ready to report?

D. O. Hancock: Your Committee on Anti-Tuberculosis Campaign submits the following report to the House of Delegates:

Prevention, Management and Treatment are the individual and social requirements of tuberculosis. As a means of meeting these requirements we concur with the report of the Committee on this subject as adopted by your Louisville session, 1909. (See STATE JOURNAL, November 1st, 1909, page 944.) From that report we quote paragraph No. 7. "The object is a well-planned, up-to-date tubercular infirmary in each county of the state, built by each county, owned and controlled by each county, and with laws which will secure protection of patient and people from further spread of the disease, and with facilities for treating the curable and for caring for the incurable." In the judgment of this Committee, if there was added to such a system of county infirmaries one large central institution for the more elaborate study of the subject and for the development of details of management our efforts on this subject would then begin to compare with the requirements of tuberculosis. In support of our report of last year we quote from the report of Gaylord Farm Sanatorium as appearing in Current Literature this year. "Five points for practical application:

"1. The early diagnosis of pulmonary tuberculosis.

2. Treatment in nearby sanatorium when possible.

3. A sensible diet and no forced feeding.

4. The stay at the sanatorium should be long enough to arrest the disease thoroughly.

5. Unless some particularly unfavorable condition should prevent, the patient should return to the occupation to which he is used."

We call especial attention to Nos. 2 and 5 of these recommendations, "Treat them in nearby sanatoria and return them to the occupation to which they are used." The practice of sending these patients North, South, East and West, among strangers to die, is not satisfactory. We are sick of separations when the heart most needs those who love.

The recommendations of this report carried out to results would mean an expenditure of an immense sum of money. One hundred county infirmaries at \$25,000 each, paid for by the county, would be \$2,500,000; one central institution should cost not less than \$1,000,000 or a total of \$3,500,000. Large as this sum is, it dwindles into insignificance when compared with the cost in human life values at \$1,700 per each one dead and \$700 annually in average wages lost from consumptives. The real waste can only be expressed in terms of human misery. We deplore the seeming deliberation with

which our state handles the subject. Carlyle said, "Every noble work is at first impossible." Wellington at Waterloo said, "Hard pounding, gentlemen; but we will see who can pound the longest." Milton wrote, "I argue not against Heaven's hand or will, nor bate a jot of heart or hope, but still bear up and steer right onward." The doctors of Kentucky are as "watchmen on the wall." We should sound no uncertain note on this subject nor is it sufficient that we cry aloud; we must work and continue to work. Johnson wrote, "Great works are performed, not by strength but by perseverance." Havard said, "Perseverance is a Roman virtue that wins each Godlike act and plucks success from the spear roof crest of rugged danger." It was Longfellow who wrote, "The divine insanity of noble minds, that never falters or abates, but labors, endures and waits till all that it foresees it finds, or what it cannot find, creates." And from Burke we have, "The nerve that never relaxes, the eye that never blanches, the thought that never wanders, these are the masters of victory." Let us continue to place on the record of our state and county societies our mind on this subject and let these records be published to the people of our commonwealth that these crimes of deliberation and neglect be not charged to us.

Respectfully submitted,

D. O. HANCOCK, Chairman.

The President: You have heard the report of Dr. Hancock. What will you do with it?

Hugh D. Rodman: I move that it be accepted. Seconded. Carried.

Frank Boyd: I desire to report to the House of Delegates that McCracken county will not have to build a tuberculosis sanitarium, as we have completed one. We have an ideal site of about 140 acres and we think it is a model institution of the kind and is ready for occupancy and will be occupied during the month of October.

D. O. Hancock, from the same Committee, presented the following resolution:

Whereas, The Jefferson County Medical Society has unanimously endorsed Dr. Dunning S. Wilson, of Louisville, for Superintendent of the Anti-Tuberculosis Association Sanitarium of Louisville and Jefferson counties, and whereas, no other physician in Louisville and Jefferson counties has indicated a desire for such appointment, and as we know Dr. Wilson to be eminently qualified by training, temperament and education to serve the Association and the sick to be cared for, he having been largely instrumental in the inception and inauguration of this worthy philanthropic movement and is yet so connected with the movement; therefore, be it

...that we respectfully endorse the application of Dr. Wilson for appointment to the position mentioned.

The Secretary: I move that the resolution be adopted by a rising vote.

Seconded by several and unanimously carried.

J. N. McCormack: Referring to what Dr. Boyd has told you, this is largely the result of the work of Mrs. Crane, who was in the state last year, and who, we think, accomplished a million dollars' worth of good for the state of Kentucky, and it gives me great pleasure to say on behalf of the State Board of Health that Mrs. Crane will spend a couple of months in Kentucky before long and we shall try to send her to every county she has not visited. She is a wonderful woman, with a special God-given gift and just as soon as the appropriation is ready, we shall work with the women's clubs and county societies and send this remarkable woman to every place where the doctors will make arrangements for the work.

This year finishes my work with the American Medical Association, as I have notified the officers in charge, and I purpose to devote the remainder of my life to my own state. (Applause.) A plan has just been adopted by the Board to divide the state into sanitary districts, put in charge of a leading physician who can visit every county and hold public meetings. We have two or three men in mind with stereopticons, but we want volunteers who have gifts in this direction, to go to the churches and school houses to enlist the teachers. Both State Normal Schools have adopted the Report of the State Board of Health as a text-book. Each one of these locates in a community and tries to prevent typhoid fever and other diseases that are a reproach to the profession and to civilization. This spirit we want to inaugurate in connection with the report of Dr. Hancock. I am glad to tell you these things. These people are placed on a small salary in the State Board of Health. The Board expects every man who gets a dollar of that appropriation to put in his pocket to earn five dollars. This applies to Councilors or anybody else. (Applause.) This fund which the state has placed in the hands of the State Board of Health is to save life and to preserve health, and if the Councilor or anybody else put in charge of the work does not make good in the counties, somebody will be put in his place and his salary will not be paid.

R. C. McChord, Chairman, presented the following report of the Committee on Life Insurance Examiners:

We deem a report on Life Insurance Examiners as superfluous at this time, as all first-class insurance companies employ the best

men they can get to examine for them, and pay a straight fee of \$5.00 for their service. So far as we are informed, there is only one of the old-line life insurance companies that is paying a less fee than \$5.00, and that is the New York Life. We believe the conduct of this company in refusing to pay the regular fee to be reprehensible, and we believe it to be the duty of all reputable physicians to refuse to examine for this company, unless they pay a fee of \$5.00 for such service.

(Signed) R. C. McChord,
J. S. Loek.

Virgil E. Simpson: I move the adoption of the report read by Dr. McChord.

Seconded and carried.

The Secretary: There is an amendment to the By-Laws pending, which was introduced last year at Louisville, providing that Chapter II., Section 1, be amended so that the meeting shall be held in Louisville, every third year instead of every alternate year. This was done at the request of the Louisville delegates.

It was moved that the amendment be adopted.

Seconded and carried.

W. E. Scour: I desire to make a report on Simple Refraction for the Family Physician:

We recommend that the Kentucky State Board of Health notify all the medical colleges in the state that beginning at next spring's examination, all applicants for license must demonstrate the possession of such a working knowledge of simple refraction as can be accomplished without the use of a cycloplegic, and that any failure to obtain 50 per cent of possible standing will subject the applicant to a refusal of a license. (Signed) D. M. Griffith, A. O. Pfingst, J. G. Carpenter, T. A. Frazer, W. E. Scour.

J. N. McCormack: I move the adoption of the report.

Seconded by several and carried.

Virgil E. Simpson read the report of the Committee on Council, as follows:

We wish to unreservedly commend your Council on the successful business management of the JOURNAL. To be able to show a profit of \$179.39 for the year just ending on the publication of a journal, the paramount object of which is scientific, is ample evidence that the Council's business acumen is keen and its principles sound. Without advertisements the life of the JOURNAL would be well-nigh impossible and its usefulness so curtailed by the necessary diminution in size that it would seem every member should be cognizant of its importance. And yet we, who have had to come in actual contact with this phase of the JOURNAL's existence, painfully realize

the apparent lack of interest of our members and their manifest lukewarmness of support. As repetition of order is the life of a business house, so are renewals from year to year of our advertisers the solution of our difficulties. So often do business concerns that have been induced to contract for an initial year's advertising space refuse to renew on the ground that they get no returns. If the 1,800 members of the Association would show a proper appreciation of the JOURNAL's advertisers' bid for their patronage, the burden of your Council's work would be shifted to an earnest consideration of how to spend advantageously so much money. We recommend to your earnest consideration and steadfast support the attitude of your Council in its maintenance of a high standard of advertised matter. It would be an easy task to secure an income sufficient for our needs if no discretion were used in soliciting advertisements. The friends of "Legal Freedom" (whatever that means) would be glad to fill our advertising pages were they permitted to dictate this policy of our JOURNAL. The manufacturers who are not sufficiently honest to gain the approval of the Council of Chemistry and Pharmacy would patronize our JOURNAL with such vigor that your Council would be troubled by the necessity of declaring dividends, did it listen to their siren song.

We purposely refrain from commenting on the Jefferson County number of the JOURNAL. It would seem too much like engraving one's own medal of honor or writing one's own obituary. The wisdom of the Council is establishing this innovation, we believe, has been demonstrated. The scientific matter of that Society has grown too large for your regular edition to carry with its present income. Of 176 original articles published the past year, 120 were contributed by that Society. The present plan provides for its publication to the benefit of the whole membership of the Association. One feature of the business relations between the two issues should be commented upon. According to our information the editor acting for the Council considers that the Association is entitled to the deductions from cost of publication accruing from delay in issuance and typographical errors pertaining to the Jefferson County number. We believe that the Jefferson County number is entitled to such credits and recommend that such be done beginning with the initial issue of April 15, 1909.

On motion, the report was adopted, with the provision that the last section be referred to the Council, with power to act.

C. Z. Aud presented the following report:

Your Committee on Legislation and Public Policy beg to report as follows:

The optometry bill which was objectionable to you was defeated. We recommend that the Kentucky State Medical Society in session express its thanks to President Taft, Ex-President Roosevelt, Senator Owen and Mr. McCreager, and all others who aided us in our health-promoting work.

Through the efficient efforts of our great *American Medical Journal*, of Dr. McCormack, National Organizer, together with Dr. Charles A. L. Reed, Chairman of the National Council, satisfactory progress was made at Washington in securing legislation looking to the welfare of the people and the interest of the profession. The following bills are now pending before the Senate and Congress:

Senate Bill No. 6049, introduced February 1, 1910, by Senator Robert L. Owen of Oklahoma.

House Bill No. 24549 (same as Senate Bill No. 6049) introduced by Mr. Creager, April 15, 1910.

These bills provide for the establishment of a Department of Public Health with a Secretary of Public Health, in the Cabinet of the President, transferring all public health agencies thereto and was satisfactory to the sanitariums of the country.

On April 22, 1910, H. B. 24827 was introduced by Mr. Simmons, "Establishing a Department of Public Health and for Other Purposes." A bill was introduced to create a National Bureau of Health.

KENTUCKY LEGISLATION.

In our own state your workers secured the passage of a greater number of wholesome measures than during any previous session of the State Legislature. The following measures recommended by the State Medical Society became laws: A bill placing \$30,000.00 at the disposal of the State Board of Health. A bill appropriating \$10,000.00 for a hospital for incurables. A vital statistic bill, and an abortion bill.

Respectfully submitted,

C. Z. AUD, Chairman.

CHARLES L. HEATH,

GEORGE P. SPRAGUE.

On motion, the two reports were adopted.

W. W. Anderson: Being a member of the Committee on Public Policy and Legislation, I wish to say that Dr. Aud has failed to tell you of another measure that was passed. I do not know whether I should tell it now for fear it might be news to the Legislature. They passed another bill we had been waiting for many, many years. Campbell-Kenyon County made a request for it and the Committee on Public Policy and Legislation recommended it. You will find the other bill in the second to the last paragraph of the Vital Statistics Bill. I think I have a copy

of that bill in my pocket: It can be found in paragraph 24. It reads as follows: "For the purpose of this Act, and all other matters, the confidential relations and communications between physicians and patients are placed upon the same basis as those provided by law between attorney and client. Nothing in this Act shall be so construed as to require any such privileged communication to be disclosed."

Several reports of expenses from Councilors for the ensuing year were presented, and on motion they were ordered paid.

The Chairman of the Reference Committee on Amendments to Constitution and By-Laws presented the following report:

As Chairman of the Reference Committee on Amendments to Constitution and By-Laws, I submit the following suggestions as to needed changes and additions to the organic laws of this Association, with a view to conforming same as nearly as practicable, to the constitution and by-laws of the American Medical Association:

That Article IV. of the constitution be amended to read: "This Association shall consist of Regular Members, Associate Members, Delegates and Guests."

That Article XII. of the constitution be amended to read as Article XII. of the American Association constitution.

That Chapter 1 of the by-laws be amended to embrace Associate Members. See section 7, page 127, Handbook for House of Delegates, American Medical Association session of 1910, St. Louis; with such exceptions, if any, as this Association may deem wisest and best.

That Chapter VII., Section 3, of the by-laws be so amended as to more specifically set forth the course of procedure on trial of a member charged with unprofessional or criminal conduct. See Handbook above, pages 132 and 133.

I also look with favor upon some of the suggestions (pages 134 and 135, Handbook) regarding the uniform regulation of membership, and believe that much that is therein laid down could wisely be incorporated in the rules of this Association, concerning membership, especially in so far as they relate to the fiscal year.

All of which is respectfully submitted.

(Signed) W. W. RICHMOND,
Chairman.

To lie over for one year.

D. O. Hancock presented the following:

Inasmuch as the County Secretary is often asked, "What is the advantage of being a member of the County Society," and inasmuch as a number of good reasons exist and more are being created, therefore the Association of

County Secretaries asks the House of Delegates to authorize the Secretary of our State Association to formulate the reasons and print them in the JOURNAL at an early date and to prepare reprints of same for the use of County Secretaries.

It was moved that the resolution be adopted.

Seconded and carried.

On motion, the House of Delegates then adjourned until 8 A. M. Thursday.

September 29—Fifth Session.

The House of Delegates met at 8 A. M. and was called to order by the President.

The Secretary called the roll and fifty-two responded.

The first order being the election of officers, W. B. McClure nominated Joseph W. Pryor, of Lexington, for President.

Curran Pope seconded the nomination of Dr. Pryor.

C. Z. Aud nominated J. G. Carpenter, of Stanford, for President, and W. W. Richmond seconded the nomination.

Upon motion, nominations were closed.

Seconded and carried.

The President appointed as tellers W. W. Anderson and I. A. Shirley.

There were fifty-one votes cast, and of this number J. G. Carpenter received twenty-nine, and Joseph W. Pryor twenty-two.

It was then moved and seconded that the nomination of J. G. Carpenter be made unanimous.

Carried.

J. G. Carpenter was declared duly elected President.

The President appointed C. Z. Aud and W. W. Richmond to escort the President-elect to the platform.

Dr. Carpenter, in accepting the Presidency, said: "I thank you most earnestly and sincerely for this compliment. I have not sought it. It is your work. It seems to me the hen has laid the wrong egg, but I cannot help it. (Laughter.) I am not responsible for that. I am scared. It is about the first time in my life I was ever frightened. I hardly know what to say. (A Voice, 'Crow.') I feel whatever honor you have conferred upon me you owe it to my mother to whom from my boyhood I owe all the great virtues and factors of life which she instilled into me, and I feel that if there are tears of joy in heaven they will be shed by my mother this morning, who has long since gone hence. There is one sad thing about being President of this Society, and that is in twelve months I shall be exiled to the ex-presidency, and I fear you may put me on the shelf. But I am just a boy in the profession. My people lived about one hundred and twenty-five years of age.

(Laughter.) I am not as old as Zaccheus was when he sought his bride. According to the bible Zaccheus went up a tree, and if I had a tree I would go up myself. (Laughter.)

There is another sad thing about the Presidency of the Kentucky State Medical Association, and that is, I am afraid I am going to look like Dr. Shirley. (Laughter.) But, seriously gentlemen, I wish to thank you one and all for the distinguished honor you have conferred upon me. I wish to thank all of the Kentucky doctors, both great and small, the good-looking ones as well as the ugly, for this compliment. You have placed a great burden upon me. I have been a worker all my life. I want it understood that every member is to put his shoulders to the wheel and push, and every man is to pull, so that we may make the next year the best year of work in the history of the Kentucky Medical Association. We must stand by the State Board of Health, and we must make the local boards of health of each county what the State Board of Health would have them to be. That means earnest co-operation.

Now, I have said too much. Again, I thank you once, twice, three times, and more, if necessary. (Applause.)

Nominations for First Vice-President being in order, C. Z. Aud nominated Joseph W. Pryor, and W. F. Boggess moved that the election be made unanimous by rising vote.

Seconded and carried.

Dr. Pryor was declared duly elected First Vice-President.

The President appointed I. A. Shirley and Curran Pope to escort Dr. Pryor to the platform.

Dr. Pryor said: "Mr. President and members of the Association: Nothing could give me greater pleasure in being nominated for President of this society than to have been defeated by my worthy opponent. (Applause.) I can say to you, I appreciate the honor you have conferred upon me by making me the First Vice-President, and I appreciate the honor you conferred on me by voting for me as your President. I say nothing could give me greater pleasure than to do this, but I have made one exception, and that is the pleasure that my friends and colleagues of this city have honored me with in presenting my name and have done what they could to make me your President. I assure you, it is an honor, and I do not know why they selected me. I have not been able to figure that out, but they did. I can say this, gentlemen, that I think this body of physicians is noble and appreciative, and any man who represents you may feel that there is no higher honor that can possibly be conferred upon him than to be made Presi-

dent of this Association. I will not trespass further upon your time." (Applause.)

The names of the other officers who were duly elected are as follows: Second Vice-President, B. E. Giannini, Coalmont; Third Vice-President, D. O. Hancock, Henderson; Orator in Medicine, W. W. Anderson, Newport; Orator in Surgery, John R. Wathen, Louisville; Delegates to the American Medical Association, Curran Pope, Louisville; W. W. Richmond (to succeed J. W. Kincaid); and Arthur McCormack, Bowling Green, to succeed himself; Councilor of the Eighth District, C. G. Daugherty, Paris, re-elected; Councilor of the Seventh District, L. T. Hammonds, Dunnville, re-elected.

I. A. Shirley offered the following resolution:

Resolved, That the clause making a delegate ineligible to any office, except that of Councilor, is hereby repealed. (To lie over for a year.)

NATIONAL DEPARTMENT OF HEALTH.

J. A. Stucky offered the following resolutions:

Resolved, That the Kentucky State Medical Association fully indorses the principles of the several bills introduced into Congress along the line of the Owen Bill, having for their purpose the establishment of a National Department of Health; and it is further

Resolved, That this Association re-affirms its position taken at the last annual meeting, October 21, 1909, condemnatory of benzoate of soda and other chemical food preservatives as deleterious and fraudulent, and again petitions the Secretary of Agriculture, the Secretary of the Treasury, and the Secretary of Commerce and Labor to co-operate under the law so as to amend Food Inspection Decision No. 104 as to conform with the above resolutions; and be it further

Resolved, That we deplore the tendency to weaken the wise and beneficent intent of the Pure Food and Drugs Act, and express our confidence in the attitude of Dr. Harvey W. Wiley and appreciation of his valued services.

It was moved that the resolutions be adopted unanimously by rising vote.

Seconded and carried. (The vote was unanimous.)

The Secretary read the following, offered by N. M. Garrett:

Be it resolved by the House of delegates of the Kentucky State Medical Association that the Secretary and the Treasurer of the Association are hereby appointed as a committee to ascertain the amount or amounts, if any, due for state, county or municipal taxes, for the last five years, in any of the taxing districts of the state, on money or other property of

the Association, and that the Treasurer be directed to pay.

Be it further

Resolved, That the Secretary and the Treasurer each be instructed to annually list with the County Assessor and also with the Municipal Assessor, where the property may be subject to municipal taxation, any and all money or property of value, in the possession of either of them which may belong to this Association. Be it further

Resolved, That the sum of \$400.00 or as much thereof as may be necessary, is hereby appropriated for the payment of any taxes or penalties which may now be due.

It was moved that these resolutions be referred to the Council with power to act.

Seconded and carried.

E. M. Wiley presented the report of the Committee on Reciprocity, as follows:

"Your Committee on Reciprocity submits the following brief report: We do not deem it wise to recognize applicants for a state license to graduates from medical colleges in case those schools maintain a lower standard than that set forth by the Medical Council and known to us as Class A. All applicants for medical license in our state from states with whom we have reciprocity, and whose medical colleges persist in maintaining standards not up to the requirements of the Council of Medical Education, shall be required to submit to an examination by our State Board. By maintaining these high standards the states now supporting schools with lower standards of medical education will be forced to adopt the standard as set forth by our National Council of Medical Education. Then all that will be required for medical license will be an endorsement from the county or state society of moral character and good standing in their respective county and state societies.

"(Signed) E. M. WILEY,

"M. H. DAVIS,

"W. M. MILLER."

It was moved and seconded that the report made by Dr. Wiley be accepted. Carried.

The Secretary read the following resolution:

Resolved, That the House of Delegates be requested to continue the Committee on Expert Testimony for the next year to co-operate with a similar committee of the State Bar Association until this cause is successfully prosecuted before the General Assembly.

It was moved that the resolution be adopted.

Seconded and carried.

The Secretary read the following report of the Reference Committee on Reports of Officers:

"Your Committee on the Reports of Officers Other Than Councilors feels a peculiar pleasure in reporting this year. Our observation of the reports of other states leads us to the conclusion that Kentucky physicians should be proud of their officers, of their loyal and laborious work, and recommend that we express to them our sincere appreciation of what they have done, for their clear and business-like reports to this Association. Few are apt to think of the unending labor involved and the time and ability needed, and the least we can do is to pay to them this tribute of our esteem. We hope that the Association will ever have such excellent officers.

"Respectfully submitted,

"B. CORNELIUS,

"CURRAN POPE."

W. W. Anderson: I move the adoption of the report.

Seconded and carried.

W. W. Anderson: I wish to call attention to the excellent address in medicine delivered this year which contains so many valuable suggestions to the authorities in the different counties, especially concerning tuberculosis, etc., and at the request of a considerable number of delegates I move that the Council print and circulate among the county and legislative officials 500 copies or as many as may be necessary for the purpose.

It was moved that this resolution be adopted.

Seconded and carried.

D. C. Donan, Jr., offered the following resolution:

Resolved, That the thanks of the Association be expressed to Chairman Clark, Secretary Estill and every member of the Fayette County Medical Society for their cordial hospitality, to the people of Lexington, especially the ladies, and Judge Wilson, and Bishop Burton, and to Dr. T. C. Holloway for his management of the commercial and educational exhibit.

J. N. McCormack offered the following resolution:

Resolved, That the special gratitude of this Association be expressed to Mr. and Mrs. Haggin, Mr. and Mrs. Berryman for their unique and lavish entertainment, not alone for the hospitality it expressed, but for the lesson in modern hygiene expressed by the fact that such a dinner could be served in a dairy barn within a few hours after 400 cows had been milked there.

J. C. S. Brice offered the following resolution:

Resolved, That the thanks of the Association be extended to Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, and his representative in Kentucky, Dr. Burneson,

for their excellent exhibit here and for their work with the Jefferson County Board of Health, which has made Louisville the largest city in the union with only tuberculin-tested cows in its dairies.

Resolved, That our thanks be extended to R. M. Allen, head of the Pure Food and Drug Bureau of our State Experiment Station, for his splendid educational exhibit here; that we extend to him our confidence and gratitude for his great achievements for the benefit of the public health, and wish him Godspeed in his work.

On motion, these resolutions were adopted.

J. T. Reddick: I have been requested to bring to this working body the hearty sympathy of an ex-president of this Association, Dr. John G. Brooks, of Paducah, and especially to the older members of the Association with whom he formerly labored do I bring his greeting.

The Secretary: A former Councilor of the society and one of the Vice-Presidents, and one of the greatest men we have had in Kentucky lies on his, I fear, deathbed with tuberculosis, and I would like to move that the President and Secretary of this Association telegraph Dr. D. C. Bowen to-day an appreciation of his services. He is entirely conscious. He is a wonderful man and knew how to do things, and it is a pleasure to think of him and his work, which are an inspiration to us all, and it is one of those things which seem entirely unconsolable that a man like him should have been stricken down in his youth and activity.

I. A. Shirley: I second the motion.

C. Z. Aud: Dr. Bowen said to me to give his love to the members of the House of Delegates.

J. N. McCormack: I move that telegrams be sent to Dr. Bowen, Dr. Brooks and Dr. William Bailey at the same time.

Seconded and carried.

Several bills of Councilors were presented to the House of Delegates and on motion they were ordered paid.

Paducah was selected as the place for holding the next annual meeting.

I. A. Shirley offered the following resolution:

Resolved, That hereafter the Association shall go wherever the majority of the delegates desire. (To lie over till next year.)

On motion, the House of Delegates then adjourned *sine die*.

ORATIONS.

PRESIDENT'S ADDRESS

PREVENTIVE MEDICINE.*

BY J. E. WELLS, CYNTHIANA, KY.

Gentlemen of the Kentucky State Medical Association: Facing this assemblage, made up largely, as it is, of the greatest and most responsible profession known to mankind, I am, if it be possible, more deeply sensible than ever of the honor that you have conferred upon me in electing me to the highest office it is in your power to bestow—that of President and leader. It would be, indeed, a heart of stone that would not be touched by *such* a tribute from *such* a profession, and from the best there is in that profession; and I wish to assure you now, as I hope later will my *labors* in your behalf, of my heartfelt gratitude for your confidence. Such confidence inspires me as nothing else could to endeavor to measure up to the responsibilities it incurs, and to you also who have given me your confidence, I shall look for sympathy and support in the execution of the duties the position entails.

I deem the present a most suitable occasion for a retrospective and prospective survey of the public health problems, and the untold good that has been and may be accomplished through the labors and sacrifices of our profession: and in looking around towards the boundaries of our interests, duties and labors, let us compare the present with the past, for by so doing we shall be the better prepared to intelligently peer into the future.

Have the splendid hopes of those interested in preventive medicine who set out in their self-imposed mission of improving the methods employed by the profession been richly fulfilled in the conditions as they exist today? Has the clarion call which has been sent ringing through our loved State and nation, startling the profession and people from their lethargy, thoroughly aroused them to a sense of their high responsibility, and developed a determined spirit of progress, or has it died away in gradually diminishing echoes, leaving but a faint impression of the spirit-stirring appeal? Have the gatherings of the elect of the profession, county, State and national, in their joint deliberations in council, their various legislations, the practical inquiries set on foot or encouraged—not omitting their exploits at the festal board and kindly interchange of thought and sentiment in social assemblage—have all of these been without fruit? Have they been like the phantom ship that glides over the seething ocean

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

of human events, leaving no track of its noiseless passage, and bearing no freight onward to its destination?

If we were to listen to the clamors of opposition, the discontented whisperings, or the murmured disappointment of an over excited ambition, we might be forced to answer in the affirmative, and in consequence be forced to cease to struggle for an unattainable good, sadly submitting to an inexorable destiny that would chain us in meekness and submission to the present existing evils. But happily this is *not* the voice of a clear and unbiased judgment. It is true that all we aimed to do has not been accomplished, but our fondest hopes *have* been realized in regard to medical education, and that, indeed, is a long step in advance. Like the constant dropping that wears a stone, our appeals have worn their slow and toilsome way through the hardest incrustations of prejudice, disinterest, indolence and indifference, reaching the conscience with sure and irresistible effect, until the profession now recognizes as an essential element of success a higher and better degree of qualification in those that are to become its members, and the necessity for something more than a mere nominal examination before admission to the honor of doctorate or the privileges of a license to practice. It *means something* to be a practicing physician today; more effort, more talent, and greater equipment of mind and soul than was the case in the days ago. In all the high class colleges there is now an iron-clad rule that before beginning the study of medicine, the student shall have attained a literary degree in some reputable college; and rules of this kind cannot be made too stringent, for in this way is most effectually solved the problem of the elimination of the flotsam and jetsam of the profession that would make a better success in following the plow than in practicing the divine art of healing. With the higher standard of medical education and the difficult examinations insisted upon before practice can be engaged in, in the State of their choice, the quacks and fakirs are bound to be eradicated at a rapid rate, and only those that are really eligible and thoroughly fitted for their work will be enabled to join the noble army of the faithful practitioners that are striving, above all else, to rid the world of pain and disease. The country is no longer flooded with little "one-horse" colleges, backed by a few individuals for their own gain, many of them having been consolidated with the larger and finer schools, and the young men they are graduating each year are better fitted for their life work, and it must be a *life* work to avail.

Medical societies and associations have been

doing a wonderful work, and that their merits have been fully appreciated by the members of the profession in this State is shown by the fact that since 1903 the Kentucky State Medical Association has increased its membership from 290 to 2,300.

"Instead of an obsolete volume of transactions, a live and thorough wide-awake bi-monthly Journal has been substituted, and the profession is in an active and united condition never before known in its history. Attention is now given to scientific, legislative, and business affairs in all the county societies, in such a way as has never before been possible. The very cordial co-operation of the profession in every school of practice has made it possible to more satisfactorily enforce the medical law here than perhaps any other State in the Union."

So many good reasons have been given why every reputable and up-to-date doctor should affiliate with some medical society that I do not deem it necessary to dwell at length upon the subject at this time; however, I do wish to say that when we do not allow an organ to perform the function for which it was created, according to the laws of nature, it will become atrophied through disuse and in time cease altogether to work. Of none of the intricate and delicate parts of our human organism is this truer than of the brain. If a young doctor does not try to keep abreast of the times by reading standard medical literature, and identifying himself with a society where he will receive the benefit of the interchange of ideas, and the valuable experiences of his fellow-practitioners, he will soon get into a rut from which he can never be removed, and from which, in time, he will not wish to be extricated. It was said by Hypocrites that "the physician must know what others have known, or he is constantly liable to deceive both himself and others." The famous Dr. Osler says:

"The man who knows it all and gets nothing from the society, reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society to hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn and Ewald? He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation."

The greatest scientists and physicians would doubtless count no cost too dear if their lives could be prolonged indefinitely,

for our days are so short and time so fleeting that, when we come "to lay our armor down" we must all feel that we have only just begun. There is *so much* to be done and so little time in which to do it, yet we know that we have made many long and rapid strides (particularly is this true in the science of medicine) so that the way of those that come after us will be made easier. So much has been accomplished within our own ken that our rejoicing that we *have* lived and had a part in this onward march is greater than our despair that we cannot live to see all our dreams realized. Many of us can remember the difficulties under which our fathers labored, for the practice of medicine in their day was by no means attended with the facilities and equipments that we now enjoy, and even for us there are yet breakers ahead. So, "while it is yet day," we must all try to add our quota to the sum of human knowledge and attainment, lest the night overtake us in which no man can work. We may not make any great discoveries, perform any marvellous operations, write famous text-books, or promulgate any great theories, yet we *may* so inform ourselves that we shall shine with great effulgence in our own particular corner of the world, ever bearing in mind that even in this seemingly obscure way we may make our lives spell success, and be an honor and blessing to our loved and revered profession.

The history of medicine for more than three hundred years is one of whose record we may well be proud, especially when we take into consideration the colossal obstacles which have interfered with our progress. It is hardly necessary for me to remind this audience of a single one of its great triumphs, yet I will refer briefly to a few of them in order that the possibilities of the future may be the better forecast.

The discovery of the circulation of the blood in 1616, by Harvey, actually did more to advance medicine than all the labors of all the scholars since the days of Hypocrites. Before this discovery all effort on the part of the doctors was an unsatisfactory groping in the dark, for as the astral bodies revolve around the sun, so does this important knowledge cause all else in the physiological world to be subsidiary to it.

Boyl, who has well been called the Father of Modern Chemistry, and Jansen with the compound microscope, contributed their share to the advancement of medical science, while the great discovery of Edward Jenner, the foremost benefactor of his kind, reduced the mortality of smallpox from one-tenth of the deaths from all diseases, and has practically eliminated it. If compulsory vaccination were to become a universal law, the disease

would soon be hardly more than a memory.

It was an American who immortalized his name and nation by suggesting anaesthesia, thereby conferring upon humanity one of its greatest boons. The name of Morton has been on the lips of countless thousands, who no longer regard the operating table as an instrument of torture and death, but simply as a means of delivery from suffering, a medium for the performance of the most delicate operations without pain, and with the greater skill on the part of the surgeon who can the more successfully operate with the patient in a deep and painless sleep.

The discovery of the tubercle bacillus by Robert Koch in 1882, the definite cause of that dread disease that carried off one-sixth of mankind and nearly one-third of the laboring class, rang the death knell of the doctrine that tuberculosis was ever in any sense secondary, and proved conclusively the contagiousness of the disease, it already having decreased the mortality 49 per cent. Unnumbered hosts have died of this disease through ignorance, but with the discovery of Koch this is no longer necessary. Yellow fever, which has raged in some of our large cities and killed its thousands, need never again gain such a foothold, since we know that the prime cause of its existence is the mosquito. It is also known that malaria is likewise conveyed by a member of the same pestiferous family. The utter destruction of the two rieties would almost eradicate both malaria and the yellow peril. Protection from the mosquito by the oiling of streets and marshy places where they breed, proper sanitary measures, and general cleanliness, has made it possible to build the great Panama Canal, which will be classed with the pyramids of Egypt, the Colossus of Rhodes, the Temple of Diana, and the other wonders of the world. Surely, "great oaks from little acorns grow." The discovery of the cause of typhoid fever and the mode by which the bacillus gains access to the body has very materially reduced the mortality of this disease, which is usually so fatal. And we now know that it is entirely preventable if there is a pure water supply, and proper screening against flies is secured; we know, too, that there is no longer any need of deadly fevers and other loathsome diseases, and that but little effort is required to remove all liability of contracting them.

The mortality from diphtheria, tetanus, meningitis, etc., has also been greatly reduced by the discovery of the serum treatment, and the anti-toxins have proved an unspeakable blessing to mankind. Cholera, scurvy, typhus fever, plague, and hookworm disease have been and will continue to be less fre-

quent since the discovery of their cause; these, and hundreds of other achievements of lesser brilliance, but none the less beneficial, are too familiar to need recital.

It is, indeed, it has always been, and may it forever *continue* to be the glory of the medical profession that their allegiance is a unit for the spread of the truth and for the cause of humanity. Dynasties, once all powerful, are now dead and forgotten, the map of the world has been changed numberless times, but the onward and forward march of this science through all the ages has been towards more lofty and enduring ends; their aim has ever been for the prevention of disease, the relief of suffering and anguish, and the ultimate improvement of the race. We have not as yet accomplished all that we desire—the specific poison of every infectious disease—but wonderful advancement along this line *has* been made. Every one knows, or ought to know, that the most dreadful diseases are inseparably connected with definite organisms, that these organisms have special laws of development and distribution, that to destroy or exclude them is to avoid the disease, and that to tolerate conditions which favor their development is only to encourage and invite their attack. When these simple propositions, easily demonstrable, are considered in connection with such scourges and pestilences as cholera and yellow fever, typhus and typhoid, scarletina, diphtheria, and epidemic meningitis, it needs no further argument to prove beyond the shadow of a doubt the value and the necessity of quarantine, and of efficient medical inspection and protection. Nor is it necessary to further argue the wisdom of establishing laboratories of hygiene at many points over the country, of equipping them with the ablest men and the finest apparatus, and of supporting them with a liberal endowment, so that the search into the unknown and undiscovered cause of disease may be promoted and extended with unremitting vigor.

Years ago the physician was regarded as a *healer* or a *treater* of disease, but in this enlightened day and age, he has come to be regarded as a *preventer* of disease, as one who believes firmly in the old adage, about the ounce of prevention and the pound of cure, and that it is but of little avail to lock the stable after the horse has been stolen. We have learned that we can save untold misery and prolong many lives by teaching the layman how to keep his body sweet and pure, and by so doing not only ward off disease, but insure the health and strength of posterity. The conscientious physician of the present day is devoting his life, not only in treating individuals that are already ill, but in

combatting epidemics, which he does by educating parents and children as to the prevention and spread of disease, and in impressing upon them the need of clean, sanitary surroundings, and also by educating the public and inculcating these principles in them, not forgetting the importance of the continuance and maintenance of pure food laws, the cleansing and protection of water supplies, the extermination of parasites and disease germs, the protection of the sex relations, the future legislation of marriage, and the crying need of a valiant fight against tuberculosis and the many infectious and virulent diseases that are abroad in our land.

It is no wonder that the profession has been called “God-like,” for it is certainly the plan of the Creator of “every good and perfect gift,” that our bodies be fitting tabernacles for the indwelling of our souls. Many of the people are *demanding* to be taught, and they are eager and anxious to learn how to prolong life and banish disease and pain. Who knows but that at some future day the fabled fountain of perpetual youth sought by Ponce de Leon will be found to be no longer a myth? It is known that in the beginning of the world before men had learned to travel at the “pace that kills,” they lived to be very old, and we are now beginning to understand that if from our modern life there be extracted much of its artificiality, and an infusion of the simple life could be supplied the mortality list would not assume the gigantic proportions it does today; we are beginning to understand the value of God’s sunshine and pure air as life-giving forces. Our three score years and ten, four score, aye, and five score might much more frequently be attained if we were to keep in very spirit and truth the divine laws as they have been revealed to us. In consequence of our having disregarded them many have gone into the Great Unknown without there having been the slightest necessity. Deploable as this fact is, it must be faced that it may be our work to make such cases rare, and yet more rare as the years glide by.

The public schools should become the object of the physician’s solicitude, for it is here that much good can be accomplished in eliminating disease. Hygiene should be taught, and a local physician be elected as a member of the School Board, whose advice should be sought and promptly accepted on such matters. Each county should have a Medical Inspector, paid by the county to visit the schools and examine the children. This is as important as it is to have a County School Superintendent, for the surroundings in which the child passes the first years of his life should conduce to his healthy development, and by no means

impede it, as so often it does. The aim of modern education should be to foster the physical, as well as the intellectual and moral development of the child, not only for the advantage of health itself, but also for the sake of establishing a sound physical basis, without which true progress in the culture of the intellect is retarded or prevented. When the State assumes the responsibility of educating the children, it also obligates itself to carefully guard their health, both physical and mental. While the State and city provide teachers, they should also provide Sanitary Inspectors of our schools, this being due to the parents who entrust their children to the care of the State and cities during so large a portion of their lives. There are many infectious diseases that need never become epidemic if they were examined carefully at intervals, and the diseases treated in their incipency; and how many cases of the "great white plague" might be cured or arrested by proper school inspection, care and treatment. Such a system properly enforced would soon elevate the standard of our future citizens, as well as promote the health and happiness of the members of society.

One of the most important things that lies within the scope of the doctor's work is the part he can take in medical legislation. Through the unceasing efforts of Dr. J. N. McCormack, our efficient Secretary of the State Board of Health, aided by the members of the State Medical Association, three very important bills became laws at the last legislative session: the appropriation of \$30,000 to maintain the State Board of Health, the Criminal Abortion, and the Vital Statistics Bills. There are others to which we could with equal zeal give our voice and vote, the passage of which would be quite as beneficial to society as those I have mentioned.

We are proud of all that has been done, yet, when we contrast this with what we wish to do, and what we might have done, it creates a feeling of sadness among us. When we consider the astounding ignorance of many of our lawmakers and the general public, on questions of science, and when we consider the tortoise-like progress of sound, useful education among the people, we feel like condemning unqualifiedly the colossal claims of imperialism and militarism, and the wanton waste of luxury which unquestionably have retarded research and have left but meagre sums to be used for the diffusion of knowledge, thus hindering the embodiment in legislation and in practice of much that would promote the mental and physical vigor of the people of this nation. It is a shameful commentary on the much boasted civilization of today when we contrast the sums doled out by

the government for the promotion of higher and better education and original researches, or for the suppression of preventable diseases, with those lavished on the vast companies of armed men, and the huge fleets of unwieldy armored ships deemed necessary for the maintenance of peace and order. None will deny they are an expense Uncle Sam's family can ill afford to maintain, while a vast number of this family, taxed to support them, believe that peace might better be maintained without them, but *none will deny* that funds are always necessary in order that war may be waged against disease and death.

The spread of tuberculosis, for example, could be easily avoided if State and county sanatoriums were established for those afflicted with this malady, and in smaller cities free dispensaries should be maintained with visiting nurses to care for and teach those unable to procure the proper medical treatment or advice as to how to conserve their health. The people should be furnished with instructive literature as to how to prevent the spread of disease, and they should learn to know that light and air are deadly enemies to insidious disease germs.

The law against expectoration in public places should be made most stringent and any offender should be dealt with so severely as to make the would-be offender fear the iron grasp of the law.

Laymen should be taught the dangers that lurk in the public drinking cup and the communion cup. Though many churches have now adopted the individual communion service, which is far more sanitary and cleanly than the old, the warfare should be kept up in this direction until *every* church is brought into line. Each traveler should carry a folding drinking cup of his own, and then he knows that he is not taking into his mouth a vile and loathsome germ deposited there by someone, perhaps, nearly dead with a fatal disease.

If some of the ladies, God bless them! could only be induced to discontinue promiscuous kissing as a greeting, it would be much better for them, or, if they *must* effervesce, let them implant a cool little dab on the cheek as our colder and more phlegmatic English sisters do. They would be healthier, far. Parents, too, should politely request their friends not to kiss their babies on the mouth. This is a most distressing habit and should never be allowed, many a healthy baby having had the seeds of a deadly disease sown in his dimpled body in just this way.

Much has been said recently, especially in the leading newspapers and magazines (and the importance of the press in regard to education cannot well be overemphasized) about

the prevention of marriage between diseased and mentally deranged persons. This is not so impracticable nor impossible as would be supposed, and surely we should be as much interested in the production of perfect human being as in the rearing of fine horses and cattle. I believe the day is not far distant when legislation will prevent people that are unfit for marriage to assume the ties. We *should* have it *now*. If men afflicted with venereal diseases were not permitted to marry pure, sweet girls, many young wives would escape the surgeon's knife, and many weaklings would not be brought into the world to drag out a weary existence, and in turn transmit *their* bodily ailments to posterity. The time may come, and may God grant it, when candidates for matrimony will have to produce certificates from their family physician, stating that they are free from all venereal and other contagious diseases, and that they are bodily clean and healthy, and therefore fit to perpetuate the race made in the image and likeness of God.

Howard A. Kelley, in a paper read before the American Medical Association some years ago, said:

"It is estimated that four hundred and fifty thousand boys in our country alone who began life with the expectation of pure living and high ideals, take the fatal plunge into the moral sewer, losing what they can never regain, even by the most careful living or conduct consistent with the standards of the world. The woman once stigmatized in this way, hides in shame, a voluntary exile in certain haunts of seclusion. The man, on the contrary, by the reason of the double standard of morals adopted by a cowardly society, conceals his pollution, puts on a brazen face, goes freely into society and often ends in marrying some pure girl, only to deposit in her lap as a wedding gift from the first wife—the prostitute—the seeds of the foul disease which makes her innocent wifehood a source of pain and misery, and often renders motherhood impossible, or makes the child, if, indeed, one ever sees the light, a wizened monster, more fit for the grave than for sweet, happy, human relationship."

Of all the women that die of disease of the reproductive organs, 80 per cent. are victims of a vile disease of which their husbands imagined themselves cured before marriage: this is also the case, or rather was, before physicians learned to protect the eyes of children at birth, that 80 per cent. of the children born with seeing eyes, who became hopelessly blind within a few days after birth, lost their sight because of infection from disease which their progenitor thought cured, and furthermore

we all know that it was sexual immorality that destroyed many of the ancient nations.

This is, perhaps, the most far-reaching and important problem of the age, though the one least discussed and least understood, and it lies with the physician, chiefly, to aid in solving it, as it is only to him that such matters are confided, therefore it is on him, *aye, on us*, that the people depend to strike at the root of the evil, and in time to eradicate it. When this is done we shall, indeed, have reached the millennium and peace, happiness, joy and health shall be ours—the peace and happiness intended by the Creator for His children ere the serpent beguiled our forebears in the Garden of Eden.

Brother physicians, we are making marvelous progress along medical and surgical lines, and we know not yet what we may do, one thing we do know, there is no such thing in our lexicon as *fail*, and fifty years hence this should be such a clean, pure, good old world in which to live, that we would want *always* to live, disease should be practically unknown, and the doctor's position should not be to recover the lost jewel after it has been stolen, but to prevent the theft.

The world's idea of greatness has changed somewhat; and it will change even more. The great warriors and military leaders who wore the laurel wreath because they had slain their thousands and tens of thousands, will not be comparable in greatness with the noble men of science who have lain down their lives for the advancement of the cause they loved. Is it not really more magnificent and more wonderful to instruct and teach the youth of the land to lead wholesome lives, prevent suffering, and prolong the span of earthly existence, than it is to incite men to carnage? Aye! a thousand times! The men who have given their lives to prevent the yellow fever scourge, who have gone out among the lepers, who have spent years of unremitting toil, and given of their worldly store to stamp out the diseases that carry off so many victims each year, are they not greater than those that caused the blood of armies to crimson the fields of battle? There can be but one answer. They are incomparably greater, nobler and more God-like.

The discovery of vaccination, anaesthetics, the anti-toxins, and all else that we have at our command certainly entitle the names of those men who gave of their very heart's blood that humanity be benefitted thereby, never counting the cost—and if they *had* counted it would they have faltered? nay! not a man of them—the names of such men I say well deserve to be placed side by side with the immortals whether on tablets of stone or engraven on the hearts of posterity.

"We are living, we are dwelling in a grand and awful time,
Ages on ages telling, to be living is sublime."

And while we may sometimes feel that because *we* cannot give our lives to the cause we love, in other than humble service, because we may not see the immediate result of our work, there is little use to serve, let us find inspiration in the humblest service, knowing that no man can do more than consecrate his daily tasks to the service of God and his fellowmen, remembering that though Paul planted, Apollins watered, it was God alone that gave the increase, and He is yet able to increase the fruit of our labors an hundred fold, if not *while* we are serving, in the days that are yet to come to the blessing of "the nations yet unborn."

In the preparation of this address I have referred to, and quoted from, Dr. Geo. B. Wood's address to A. M. A., Dr. Wm. Pepper's address to "Pan-American Congress," Dr. Fred C. Valentine on "The Boy's Veneal Peril," Dr. Howard A. Kelly, on the "Social Evil," Dr. Wm. H. Ford, on "Sanitary Inspection," Dr. J. N. McCormack's report of "Condition of the Profession in Kentucky."

ANNUAL ORATION

THE RESPONSIBILITY OF THE STATE IN THE CARE OF ITS DEPENDENTS.

By FRANK BILLINGS, M. D., CHICAGO.

The time at my disposal will not permit me to discuss all classes of people who may be termed dependent. Therefore, I shall not speak of the blind, the deaf, the crippled and others, but shall restrict the subject of this paper to the care of the mentally deficient dependents of the state.

I cannot address you with the authority of an alienist or psychologist upon the care of the insane, the feeble-minded and the epileptic, who comprise the mentally deficient class of society. My excuse for this address is that I've had five years' experience upon the Board of Charities of Illinois. Five years ago the care of the dependents of Illinois was bad. During the last five years an attempt has been made to bring about a more rational management of the state institutions in Illinois. Much has been accomplished, more remains to be done to secure the best results for the state and for the patients.

Illinois was not more at fault than many of her sister states in the mismanagement of the state charitable institutions. The fault is evident to one who looks into the matter.

Politics and the spoils of office are the chief factors. In most states the appointment of the officers of the state charitable institutions is in the hands of the governor. Political preferment and not qualification by education and experience decide an appointment. Low per capita cost of maintenance appeals to the political, as a measure to secure the vote of the taxpayer. Continuance in office and spoils the motive. It is no wonder, then, that state custodial care of dependents was almost universally and still is practiced in many states.

By custodial is meant the mere confinement in an institution without an attempt, worthy of the name, to recognize the individual's illness, except as an insane or feeble-minded or epileptic individual, and without curative treatment. The attempt to maintain a low per capita cost requires an inadequately small medical staff and cheap attendants in lieu of trained nurses and trained attendants. Stupifying drugs and physical restraint quiet the noisy patient who otherwise would annoy the attendant. The environment and idleness frequently provoke patients to unruliness who, under a different management would be quiet, orderly and of good behavior.

With practical freedom in the use of chloral, opium and other stupifying drugs, of straight jackets, handcuffs, iron anklet and chain, the Utica crib, manual physical force and locked cells, can one wonder that cheaply paid, untrained and ignorant attendants should abuse the power given them. A noisy patient became quiet for the night and sometimes forever, with sufficient chloral and the epileptic could not hurt himself or disturb his attendant when locked in a Utica crib.

Usually the state institution has been placed in a locality to benefit the land owner, the merchants of a town or others who have a "pull," rather than to benefit the people of a hospital district of the state. The buildings have been planned and erected to meet the demands of those in power; as ornate exterior monuments to the politicians and as a means of graft in construction, rather than as suitable buildings for the attempted cure, improvement and safe, comfortable and healthful care of the sick people.

Complete state care is not attempted by many states. The county alms house is the common place of restraint of all county dependents. Consequently one finds in many alms houses not only the insane, feeble-minded and the epileptic, but also the mentally sound paupers; the worn out man and woman, the stray waif, the drunkard and other human derelicts. Here conditions are worse than in the state institutions because the county does not have the means to segregate

its dependents. The children and adults, male and female, frequently are together. Illegitimate children are born to insane mothers, and children are taught vicious habits. Insufficient attendants require that the unruly insane patient be locked in a room or chained like a criminal. In many instances the insane have been locked in rooms for months, naked or scantily clothed, unspeakably filthy, poorly fed and the food poor or good, thrust through a small opening in the door as a wild beast might be fed. This has been the treatment given to many a poor creature in the county almshouses of our country. I have seen it in Illinois within the last five years and I do not doubt it may be found in almshouses elsewhere now. Complete state care is a law in Illinois now, and soon all county almshouses within her borders will be empty of all dependents, who lawfully should have state care.

The county as a community is too small to adequately care for its dependents, except its common sane paupers. The county cannot economically maintain adequate buildings and equipment, lands and qualified superintendents, medical management, nursing, etc., to afford the curative or improvable or humane care which modern methods demand for these unfortunates. On the other hand, the state, as a large community, can afford the financial means necessary to establish a sufficient number of properly constructed hospitals and other buildings, equipped adequately, with sufficient farm and other land in chosen districts of the state, to care scientifically and humanely for its dependents.

You may ask why we have been so backward in the management of our county and state charitable institutions and especially in the care of our insane and other mentally deficient dependents.

There are many reasons. One is the ordinary point of view of most of us, of the insane. The insane individual is still regarded by many as possessed of a devil; as no longer a human being; as an evidence of sin and disgrace to his people; a being without thought, irresponsible and devoid of conscience and incapable of appreciating suffering or happiness. Better dead than insane, without comprehension of the kind of insanity, is a common expression. This view of insanity induces friends to conceal the fact of a relative's insanity and their famed disgrace. This usually means delay in adequate, early treatment and chronic, incurable insanity results. Then comes commitment to an institution or almshouse, with, in most cases, custodial care. The complaint of the insane of physical and mental suffering due to environment, cruelty and what not, is too often

passed over as a delusion or hallucination, by even his friends. It is a common belief, too, that once insane always insane or at least eccentric and queer. Consequently individuals and communities have not believed it their duty to attempt to cure the insane and epileptic and to improve the mentally deficient.

Insanity is also not understood by the medical profession. In this country the medical student is taught little or nothing of insanity. This is due to the fact that there are only three psychopathic hospitals in America. Most medical schools have no facilities to teach psychopathology except in a didactic way. The average physician may recognize mental deficiency or that an individual is insane, but ordinarily he cannot diagnose the character of the disease. Nor can he from his experience, as with most other diseases, advise a rational treatment. He is not sure of himself in regard to insanity. In other conditions he is able to advise his people how to avoid disease and how to become well. They learn all he may teach them of other diseases, but remain wholly superstitious of insanity because of his ignorance of the disease. His want of knowledge also usually postpones the necessary early treatment which may be rewarded with recovery.

In Germany there are twenty-five or more psychopathic hospitals for the treatment of early insanity. Every patient is earnestly studied. An accurate diagnosis is made and appropriate individual treatment is instituted. Should a chronic mental disease result, the patient is finally sent to a hospital for detention, attempts at re-education, etc. Many cures result. But another useful purpose of the psychopathic hospital in Germany is to teach medical students. Every medical student in Germany must spend a prescribed time in the wards of the psychopathic hospital. He learns to recognize insanity in its various forms and how to treat the insane patient by modern methods. Three years ago an attempt to hold psychopathic clinics for the benefit of the physicians in that district, at the Elgin Hospital for the Insane, caused the legislature of Illinois to pass a resolution, introduced by the speaker of the house, which prohibited clinics in our state institutions. The ostensible plea was the cruelty to patients by such publicity. This publicity was exposure of the patient to the inspection and study of physicians. The result of such instruction would have been of great value to that community through the increased knowledge of the family physician. The members of the legislature did not object to the throng of visitors, mostly curiosity seekers, who trooped through the institution on each public visiting day, although it is well known to

institution physicians that many patients are made worse by such needless public exhibitions.

Finally, let me report that the chief cause of the past mismanagement of our insane and other dependents is politics and all that the word implies, in graft, greed and Godlessness.

INCREASE OF INSANITY.

It is recognized that there is a gradual increase of insanity and other forms of mental deficiency. The annual net increase of the insane in public institutions is about three per cent. The increase of the feeble-minded and epileptic is not as accurately known. The causes of mental deficiency including the insane is due to many causes. Our modern civilization with its strifes, worries, dissipations, social evils, etc., induces mental instability. The marriage and procreation by the unfit is a most potent cause. Many forces are at work to attempt to correct the evils of the strife for wealth and social and political distinction, the social evil, alcoholism, etc. Cupidity, pride, depravity and passion are difficult enemies to overcome.

Procreation of the mentally deficient, insane, feeble-minded, the epileptic, the degenerate and the habitual criminal should be prevented by the state. If the state must assume the care of these dependents, the same authority should empower the State to sterilize these unfortunate men and women. Thanks to modern surgery sexual sterilization* may be practiced without mutilation, suffering or risk of life. Function is not disturbed by it. Procreation is prevented and society is preserved from contamination by an increased number of criminals, degenerates and mentally deficient creatures.

MODERN METHODS OF TREATMENT OF THE INSANE AND OTHER MENTALLY DEFICIENT PATIENTS.

The modern conception of the insane individual is that he is brain sick. The brain or nervous apparatus of the epileptic is diseased or is functionally wrong. The brain of the feeble-minded is undeveloped or diseased or birth injured. Starting from these premises these patients should be treated as human beings; as possibly curable or improvable, beings; as possibly curable or improvable.

The modern treatment cures about twenty-five per cent. of the insane during the first year. Under custodial care only five or six per cent. are cured. Twenty-five per cent. are improvable and in a variable time, from two to ten years, are so nearly restored to

health that they may return to their homes. The annual death rate of the insane in institutions is about eight per cent. Nearly one-half of the deaths, 3.2 per cent., occurs during the first year of insanity. About fifty per cent of insane are unimprovable and incurable. Death is their only relief.

To secure the best results the state should recognize its responsibility and meet it. To do this requires the establishment of one or more receiving psychopathic hospitals where the insane patient may be first committed. As a rule an insane patient does not do well in the home environment and with the relatives and friends. At the same time the methods of commitment by court and jury are attended with so much disagreeable notoriety that early commitment is prevented in many patients. Voluntary commitment or temporary commitment by court should be encouraged to secure the earliest treatment in a receiving hospital. The earlier the treatment is begun the more favorable the results in recoverable and improvable cases. If the treatment is ineffectual regular commitment may be made at any favorable date. In a state with one or more large cities, proportionately large psychopathic hospitals for the reception and early treatment should be maintained. In less populous states a receiving or psychopathic pavilion or ward should be maintained at each state hospital for the insane.

The psychopathic hospital or wards must be built on modern hospital ideas. It must have rooms and wards to furnish the proper environment for the excitable, noisy, delirious or maniacal, and also for the depressed and melancholic patient. It must have a proper equipment for treatment; hydropathic, electric and pharmacologic. It must have its laboratories for clinical study and research. It must have a superintendent qualified as a psychopathologist and able executive to administer the institution, to initiate the problems, to plan their solution and to know the work is properly done by his subordinate co-workers. The superintendent must have a sufficient medical staff to efficiently carry on the work. A training school for nurses should be maintained to educate an efficient force of nurses to do this form of specialized work for the state hospitals for the insane.

The states should be divided into districts of suitable size to permit the establishment of a hospital in each district. The consensus of opinion of alienists is that a hospital for the insane should not exceed fifteen hundred beds. A larger number of inmates is difficult to administer and afford a maximum of individual attention. The hospital should be substantial, fireproof if possible, and plain. Exterior decoration should be avoided and the

*Vasectomy of the male and vaginal section of the Fallopian tubes of the female.

expense saved thereby should be expended upon more necessary parts of the institution. The institution may or may not have a receiving psychopathic ward dependent upon the existence of a receiving hospital in the state. It must have a hospital pavillion or wards for the care of the acute insane and the physically sick. An institution with fifteen hundred inmates will have its physically sick, from infectious and chronic diseases, both medical and surgical, and these require adequate hospital care. It must have its dormitories in the form of detached cottages or pavillions preferably of not more than two stories, for the chronic insane. Here the treatment begun in the receiving hospital is continued in the attempt to cure or improve the chronic insane.

For the patient who does not recover, attempts at improvement must be followed by a method of re-education. The patient must be kept diverted by work and play. The work must be chiefly manual. Consequently every hospital must have shops and a sufficiently large farm to afford pleasant employment. The farm should consist of as many acres as there are inmates. A dairy, hennery, the care of other domestic animals; truck gardens and ordinary farming would afford healthful partial support of the inmates. Shops should be maintained for making and repairing furniture, clothing, etc., for the institution. Inmates may erect many of the institution buildings. Machinery should not be used in shops, inasmuch as injury would probably result to the insane operators, and furthermore the labor should be manual and should be maintained as a curative re-educational measure rather than for the value of the products thereof. Necessarily the hours of work would perforce be fixed by the medical officers to meet the individual's needs.

Many insane patients enjoy social pleasures. They should have the opportunity to read, to listen to music, to dance and to play at such out of door sports as may be commanded for them. Every hospital for the insane will have a large percentage of unimprovable. These poor creatures become gradually more helpless mentally and physically. They require detention and watchful matronly custodial care, in the descent to the inevitable and welcome release from the burden of life.

Four walls of a hospital, shops and a well stocked and equipped farm will not make a successful hospital for the insane. The men behind the gun are the real force which brings desired results. The superintendent of a hospital for the insane should be an honest, forceful, broadminded man, qualified for his duties by education and experience. A superintendent may make or break a hospital. He must

be able to administer the institution by the co-operation of his subordinates. He must plan problems and know when the solution is properly made. He must execute by firm, tactful management and know how to do things himself. He must keep in touch with patients in his district who have been discharged or paroled.

He should have an adequate medical staff to care efficiently for the patients. The members of the staff should have laboratories for clinical research to aid them in their duties. They should be encouraged to improve themselves and should be given opportunity to study at certain periods, at the state psychopathic hospital under the direction of the psychopathologist. Increase of rank and pay would reward intelligent effort on behalf of the wards of the state. The hospital for the insane should have a sufficient force of properly trained nurses and attendants. The day of the tramp attendant has passed. Intelligent nursing and attendant care is as necessary for the brain sick as for the sick in our general hospitals. Opportunity to study, adequate wages and advance in rank will attract the proper class of people to this work. Nurses and attendants should have the comforts of clubs or cottages separate from the patients. The opportunity for social intercourse and the ordinary pleasures of life will make them more tolerant of the irrational acts of their unfortunate charges.

Under the same modern methods of treatment stupifying drugs, physical restraint and personal cruelty become less and less. Hydrotherapy quiets the acute excitable patient and rational employment lessens the periodic outbreaks of the chronic insane.

THE FEEBLEMINDED.

Many of the feebleminded are improvable during childhood. These should have the benefit of rational treatment. The state should maintain a school or schools for this class of patients. Here it is just as necessary that individuals qualified by education and experience should make a personal study of the patients. By this method alone may proper diagnosis be made, and upon that an adequate improvement treatment be based. A school of this character would not attempt mental teaching alone. Indeed every feebleminded individual has his mental limitations and this limit needs to be recognized. The mental state of the feeble mind can not be much improved after the individual is twelve years of age. The feebleminded individual can be made a more useful citizen by proper manual training rather than by an attempt to improve his mental condition. Therefore, such a school should contain shops of all kinds and

a farm, too, is necessary where the individual may receive proper training in agricultural methods. As on the farm for the insane hospital, useful, healthful work may be afforded the inmates and at the same time the products of the farm reward the individual with better food and serves as an economy to the state.

Many feeble-minded are unimprovable. Such individual should not be kept in the same institution with the improvable. Custodial care is all that can be given to this class of people. They should, therefore, be kept in an institution of detention where kindly, considerate and safe attention will make their miserable lives as free from discomfort as possible.

There is a large number of epileptics. But few states have done anything for this class of unfortunates. Under proper care about ten per cent of epileptic patients are curable. Many others may be so improved that they may be useful citizens. A large percentage of the epileptic are feeble-minded or become as a result of the disease, demented. For the curable and improvable class of epileptics the state should maintain a farm colony where these people have the healthful, out of door life and work which is necessary to their well-being. Manual training as in shops should also be a part of their treatment. A careful, individual study should be made of these people as for the other mental deficient, that a proper course of treatment may be prescribed for each. The unimproved should be separated from the improvable. For this unfortunate class of epileptics, institutional custodial care is all that can be done. For all epileptics especial buildings should be erected. They should be housed in buildings so constructed that they may not receive injury while in convulsions, by falling against sharp corners of doors, window casings, etc., and they should be protected from injury by burns by a proper arrangement of the heat radiation apparatus. Many epileptic patients are insane or become so before their death. Such patients should not be kept with the non-epileptic insane. It is quite as horrible for an insane individual to see the convulsion of the epileptic patient as for the sane individual to view it. Insane epileptics should, therefore, be segregated from all others. They may be housed in a pavilion connected with a hospital for the insane or they may be separated far enough from the other inmates to prevent the insane from viewing convulsions of the epileptics and still be near enough to the parent institution to be under the same administration for the sake of economy.

GENERAL ADMINISTRATION OF THE STATE CHARITIES.

There is much discussion as to the best

method of responsible administration of state institutions. Whether this is best done with local boards of trustees for each institution or by a central body of control, is a matter of dispute among those best able to judge. If the curse of politics could be removed from our state institutions, it would not matter so much where the responsibility for management were placed.

Personally, I should favor a central body of control of administration composed of *qualified* members. By qualification I mean a fitness for place because of education and experience. Such a board of control having as its members an alienist, an educator, a sociologist, a criminologist and first agent, would be better fitted to intelligently manage the institution than a body of individuals appointed for political purposes. Such individuals should have a tenure of office during good behavior and should receive adequate compensation. They should have entire power of appointment under civil service regulations of all employes of the state institutions.

No plan of central or district control of state institutions could be free from possible evil without the constant inquiry of an experienced inquisitorial body. Every state should have its Board of Charities or its Charities Commission composed of well known men and women who should serve without salary but with traveling and other expenses paid, to inquire into the condition of the various hospitals at stated periods.

No well conducted corporate business is carried on without an annual inquisitorial method to correct possible faults of administration. The administrative body or bodies of state institutions and the institutions too should, therefore, have their work inspected that possible faults and misdemeanors may be discovered and corrected.

The modern method of management of state dependents means, therefore, freedom from politics, the recognition of the insane and other mental deficient as human beings, brain sick or brain crippled and that they should have intelligent curative re-education as well as custodial care.

This method of treatment will increase the per capita cost and at first glance would appear extravagant. On the contrary, it will be an economy. With twenty-five per cent of the cures during the first year of insanity as compared with five or six per cent under the old methods of management, the number of insane under state charge will become less rather than to increase in number. Furthermore, if the state will assume its proper authority to lessen the propagation of the unfit, there would be less of these unfortunate people to treat. The state should recognize

its responsibility in the care of these unfortunate. If it assumes charge of them it should fulfill its full duty to society in their care along lines which modern methods have proved to be economic, humane and most beneficial.

ORATION IN SURGERY

ABDOMINAL CRISES DUE TO PATHOLOGICAL CHANGES IN MECKEL'S DIVERTICULUM OTHER THAN BY OBSTRUCTION BY BAND.*

BY GEORGE A. HENDON, LOUISVILLE.

Report of Personal Case: Mr. J. R. C., aet. 53, farmer. Seen with Dr. Quissenberry, of Worthington, Ky. He had been sick four days. His trouble started during a ride from town in a farm wagon. The pain in his abdomen was so severe he was compelled to lie down on the floor of the wagon-bed on the way home. He sent for his family physician immediately upon his arrival. The pain was not referred to any one particular spot on the abdomen; nausea was present; pulse 100; temperature normal. The bowels moved twelve hours after onset in response to a dose of salts. The symptoms did not abate. Pain and nausea grew worse. Although the doctor gave some very active purgatives no movement of the bowel was obtained after the one noted above. The pain was worse on the right side. When I saw him on the fourth day his abdomen was greatly distended and universally tender. He was vomiting at frequent intervals and had not had a stool since the day following the beginning of his illness. There was no tumor discernible. He was sitting on the side of the bed partially dressed and showed little sign of exhaustion, when I first saw him. A diagnosis of intestinal obstruction was made. The patient was immediately brought to Louisville in an ambulance. His abdomen was opened in the median line and the intestines presented a distended and discolored appearance. There was a great amount of fluid resembling soup in the abdominal cavity. A search was made for the site of obstruction; none could be found. A short hammer-shaped projection was seen upon the ileum. This proved to be a Meckel's diverticulum in a state of gangrene. It had a perforation near its apex. It was shaped something like the illustration which is drawn from memory. Here was a case of true diverticulitis.

The diverticulum was excised and the site

was closed over by a Lembert suture. The patient lived about one hour after the operation. I made the error in this case of searching too long for a mechanical obstruction, because I did not appreciate the ability of the diverticulum to incite a general peritonitis by becoming inflamed.

In this case was seen a complete analogue to the pathology so frequently witnessed in connection with the vermiform appendix. Porter has reported seventeen cases similar to the one herein reported which he collected from the literature, including three of his own; and L. Cahier collected thirty-six. I did not see the original of Cahier's article, so am not able to state whether or not some of the cases listed by him were identical with those of Porter. No doubt many such cases have occurred in the experience of operating surgeons which are as yet unpublished. Like my own case, which came to me nearly four years ago, I should never have thought of reporting this case or writing upon this subject had not any attention been drawn to it by certain misconceptions on the part of most of those with whom I talked casually about the subject.

A paper dealing with any phase of the pathology of Meckel's diverticulum would need to notice at least briefly the embryology and history of this anomaly. I found good historical references in the article by Dr. Frank E. Bunts (*Annals of Surgery*, Vol. XL, P. 536). "Lavator is said to have been the first to record its having been observed and Ruysch in his *Thesaurus Anatomicus* published in 1701 also called attention to this abnormal development, giving it the name of diverticulum and presenting an illustration of the same. Morgagni in his treatise on seats and causes of disease reports several cases of diverticulum of the ileum, and states he had a case of inguinal hernia in which it was found. Also that he had seen the same diverticulum in geese. We must, however, render to Johan Frederic Meckel the distinction of first calling a more general attention to the diverticulum, which, in his essay, he most clearly differentiated from the acquired pseudo diverticuli occasionally found along the course of the intestinal canal. It was Meckel who advanced the theory that it represented the remains of the omphalo mesenteric duct, which theory has received common recognition." He also called attention to its importance in the causation of certain abdominal affections. Meckel wrote his observations in 1812 and to him is due the credit of accurate description of the anatomy and embryological relations of the anomaly which bears his name. An appreciation, however, of its importance as a pathological entity belongs to more modern time.

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

Embryology: It is enough in a clinical report, as this article is intended to be, to refer only in brief to the embryology of the subject. The umbilical vesicle is connected in early foetal life to the primitive gut by the omphalo-mesenteric duet. Normally this duet is eliminated by the eighth week of embryonic life. Occasionally it persists. The persistent remains of this duet makes the true intestinal diverticulum. The following is taken from Kelly ("The Vermiform Appendix and its

which normally becomes obliterated and absorbed as soon as the body wall of the embryo is closed. If it fails to disappear it may persist in the adult as Meekel's diverticulum, of which we distinguish four different types."

(1) That of broad fissure at the umbilicus through which fecal matter is discharged.

(2) A more advanced condition in which the fissure is smaller, the canal longer and owing to intact anal orifice the fecal matter passes normally.



AUTHOR'S PERSONAL CASE OF DIVERTICULITIS. PATIENT HAD BEEN ILL FOUR DAYS. P SITE OF PERFORATION

Disease." P. 595): "In the very young embryo the short and straight intestinal tube is still in open communication with the yolk sac which is situated directly in front of it. As the structure forming the body walls grow from the sides toward the front they gradually narrow down the communicating portion between the intestinal tube and yolk sac until it is but a narrow channel. This is the vitello intestinal or omphallo mesenteric duet

(3) The ventral fissure closed. The vitelline duct persisting only in its proximal or ileal portion, forming a diverticulum of various length.

(4) This is the form most frequently met with and is that which is most apt to resemble a vermiform appendix. Here the ventral or umbilical portion of the duet has been absorbed and the ileal portion or diverticulum pro-

jects from the free border of the ileum. (Kelly.)

Piersol says in addition: "The vitelline or umbilical duct is accompanied in the embryo by the umbilical vessels. The latter, like the duct itself, may persist and be found close to the diverticulum, having an independent course or lying along the free border of the mesenteriolum of the persistent diverticulum. A vascular cord containing the vessels alone may persist without any or only a rudimentary diverticulum and run independently from the mesentery to the umbilicus. Owing to the fact that the umbilical vessels empty into the mesenteric vessels the cord containing the vessels always terminates at one end in the mesentery, where its relation to the mesenteric vessels can be readily traced even in adult life."

Eisendrath gives the following six varieties of persistent remains of the umbilical duct or vessels:

(1) Complete canal opening at the umbilicus at one end and into the ileum in the other. (Comparatively rare.)

(2) A canal opening at the umbilicus but ending blindly at a variable distance within the abdominal cavity.

(3) An intermediate portion of the duct remains having no communication externally at the umbilicus or internally into the gut but forming a cystoma due to retention or secretion. Such a cystoma may have a ligament attaching it to the gut.

(4) The tube is limited to the proximal canal opening into the ileum.

(5) The cord containing the umbilical vessels may persist as an independent structure and be attached to the umbilicus separately.

(6) The diverticulum may be either absent or very rudimentary and the only evidence of the presence of a congenital condition be a cord (containing the umbilical vessels or traces of them) extending from the mesentery to the umbilicus.

Anatomy: The type of the appendage which concerns us more directly at present is found in type 4, as described by Kelly, viz.—"This is the form most frequently met with and is that which is most apt to resemble a vermiform appendix. Here the ventral or umbilical portion of the duct has been absorbed and the ileal portion or diverticulum projects from the free border of the ileum."

This variety may be a mere projection upon the free border of the ileum, or its length may be as much as seven or eight inches. Its length forms one of its most inconstant varieties. The average length is given by Rokitsansky as five to six inches; by Henle one-half to six inches; by Albers one to seven inches. These statistics are, I think, sufficient to give

a correct idea of what to expect when one is searching for the diverticulum.

Its diameter usually may equal that of the ileum, or be about the size of the normal vermiform appendix. In shape it is most often cylindrical at the attachment and conical at its free extremity, resembling somewhat the finger of a glove, especially a rubber glove. When its base is constricted it assumes a globular form and may be classed as a cyst. The contents being composed mostly of mucus. Roth has reported several of the cystic variety which gave rise to the diagnosis of abdominal cystoma. When the diverticulum still communicates by a narrow channel with the ileum it may assume the large globular form by becoming distended with feces and gas. Constrictions often occur anywhere along the course of the channel and result in the formation of dilatations. The dilatations result in thinning as well as in stretching of the walls and in a few instances separation of the muscular fibres take place and protrusion of the mucus coat beneath the serous occurs, thereby producing a condition of diverticulosis of the diverticulum. When the duct remains patent at the umbilicus it nearly always takes the form of a straight channel without alterations in its diameter. When the distal extremity is unattached its termination is subject to multiple variations in shape. "It may be clubbed or, in rare instances, bifid." Treves speaks of a case with hammer-like outline. Or it may terminate in a fibrous cord called the terminal ligament. When attachment of the terminal filament takes place its normal location is at the umbilicus, but may occur at almost any point inside the abdominal cavity. According to Eisendrath the following are the points of attachment most frequently noted:—Mesentery 34; umbilicus 21; anterior abdominal wall 6; posterior abdominal wall 14; pelvis 5; bladder 2; caecum and appendix 2; small intestine 11; large intestine 1.

Situation: The diverticulum is usually attached to the ileum two or three feet from the caecum, and its distal extremity is generally free. However, it has been observed anywhere along the intestinal canal from the duodenum to the colon. Hilgenreimer observed 62 cases in which the attachment of the diverticulum was between 20 and 100 cm. above the ileocecal valve. According to the same observer it has been found more often in males than in females. The proportion being 86 to 14.

The incidence cited by Eisendrath of the diverticulum is variously stated, but it seems that there is a preponderance of evidence in support of Osler's estimate of 2 per cent. O. S. Gilbert found 5 cases in 100 autopsies. Generally it is attached to the convex border of the intestine opposite the mesentery, but

some cases are reported from the literature by Bunts as originating from the lateral and mesenteric borders of the gut. At the junction of the diverticulum and ileum there is present a reduplication of mucus membrane which gives rise to a valve-like formation. This valve-like formation exists in various stages of development and in one instance almost closed the opening between the diverticulum and intestine. Its approximate closure accounts for cystic formations in connection with the diverticulum. It is not, except in rare instances, as well developed as the valve of Gorlaeh at the junction of the appendix and caecum, for that reason that imprisonment of feces is not as likely to take place as in the appendix.

Structure: It resembles that of the intestine, all the coats of the bowel are represented; also the glands of the intestine are found in the diverticulum. Peyer's patches, the glands of Lieberkun and solitary follicles. The musculature is not as well developed as in the intestine and in some places it is entirely wanting.

Circulation: The diverticulum is supplied by the remains of the vitelline or omphalomesenteric vessels. Occasionally it possesses a mesenteric lumen through which the omphalomesenteric vessels take their course. The presence of the mesenteric lumen is of some importance in a consideration of the pathology of Meckel's diverticulum. It then resembles more nearly a vermiform appendix. The mesenteric lumen limits the range of motion, and as a result of the greater degree of fixation accumulation of feces and other foreign matter is more likely to occur, thereby rendering inflammation and gangrene a matter of greater frequency. In other words, fixation of any hollow intestinal appendage invites stagnation and promotes pyogenic infection.

Pathology: The following pathologic phases have been observed in connection with the diverticulum:

1. Diverticulitis:
 - Pyogenic infection-primary.
 - Torsion.
 - Foreign bodies.
 - Uleer.
 - Tuberculosis.
 - Typhoid fever.
 - Parasites.
2. Inversion.
3. Cyst.
4. Hernia.
5. Prolapse of bowel into a diverticulum fixed and patent at the umbilicus.
6. Strangulation of intestine as by a band.
7. Umbilical fistula.

The consideration of the last three of these conditions will be omitted in this essay.

While the second, third and fourth might with propriety be regarded as subdivisions of the first.

DIVERTICULITIS.

History: Korte in 1894 was the first to describe inflammation of the diverticulum and classify it as a distinct pathological entity. Long before that time, however, the disease had been observed and noted in persons dying of peritonitis. Sangalli cites the case of Italo Antonetti; and Rieha, a surgeon of Turin, had a patient in 1721 dying of diverticulitis, who had numerous attacks of colic during life. A case is reported by Duvignany in 1768; Deunee one in 1851; Bouvier one in the same year; Moreau and Bertheraud one in 1852. In 1899 Henry Blane published a thesis and reported 48 cases gathered from the literature. Of this number 12 cases were of the pure pyogenic infection type. Blane applied the name "Diverticulitis" in his thesis and individualized the disease. Since that time various authorities have recognized it officially as a belligerent and urged the larger consideration of its importance. "The diverticulum is subject to inflammation arising from various causes within itself, presenting a clinical entity to which has been given the name of diverticulitis." Bevan writes: "Cases of diverticulitis are gradually creeping into the literature and surgeons should realize the condition as one of great importance. It should be looked for both from the standpoint of ileus and peritonitis." Porter writes: "A Meckel's diverticulum is a greater menace to life than a vermiform appendix."

H. T. Gray, finishing an article upon Inversion, says: "In conclusion I would say that lesions resulting from abnormalities in the involution of the omphalomesenteric structures of which invagination of Meckel's diverticulum forms a small part, deserve from their diversity and severity more attention than has hitherto been given them."

American Practice of Surgery: "Of the various anomalies of the intestine Meckel's diverticulum is of the most interest to the surgeon because of its frequency and clinical importance." It is estimated by Halstead to cause six per cent. of all cases of intestinal obstruction and its inflammation rated by Eisendrath as fifth in the list of causes of peritonitis. It is likely that few diverticuli exist without giving rise to some marked symptoms."

Regarding the frequency of diverticulitis *per se* I have been able to collect seventy-seven cases reported in detail of primary pyogenic infection, from the literature and have found mere mention of fifteen others. This number does not include those cases in which

the diverticulum becomes inflamed as a result of torsion or strangulation by a loop of intestine or inflamed in consequence of inversion.

The analogy of the clinical pathology and morbid anatomy, existing between diverticulitis and appendicitis, is so striking as to excite the comment of every author I have consulted on the subject. For example I submit a few quotations bearing on this point:

(a) "Like appendicitis the following forms of inflammation are recognized:

(1) Simple catarrhal inflammation with local peritonitis."

(2) Localized suppuration with or without perforation of the diverticulum.

(3) Acute perforation leading to general peritonitis.

(4) Gangrene. (Clogg.)

(b) The presence of foreign bodies, fecal concretions, etc., probably form the same secondary etiological factors as appendicitis. (Richter.)

(c) It may very rarely become strictured, inflamed or gangrenous, precisely as in the infrequently noted. (W. W. Keen.)

(d) The analogy of the diverticulum to the vermiform appendix is pronounced and should be followed in the diseases of the two structures. Typhoid ulcers, catarrh and perforation or gangrenous inflammation are not cases frequently noted. (W. W. Keen.)

(e) The diverticulum is subject to inflammation arising from various causes within itself, presenting a clinical entity to which has been given the name of diverticulitis. (W. W. Keen.)

(f) Etiologically the same agents that excite an inflammation of the appendix will determine nearly the same pathological termination in a Meckel's diverticulum. (A. E. Halsted.)

(g) A diverticulum may become the seat of ulceration and perforation like the vermiform appendix from pyogenic infection. (J. B. Roberts.)

(h) A verdict for one thousand dollars was recently given by a jury in one of our western States against a surgeon who admitted that he had removed a Meckel's diverticulum by mistake for an appendix. (J. E. Moore.)

Numerous examples occur in the literature illustrating the difficulty of distinguishing between an appendix and a Meckel's diverticulum even with the structure in the surgeon's hand. The difference in many cases was recognized only when the attachment to the small bowel was brought to light. The presence of a mesenterium always enhances the difficulty of making the distinction. The anatomy of the two structures; the diverticulum and the appendix, are almost identical. The main difference being in size and situation

and in the greater resemblance of the mucosa of the diverticulum to that of the small intestine. Ulcerations, specific and pyogenic, are described by various authors. Gray reports one case of acute pyogenic ulcer, and Cahier observed six cases of typhoid ulcer in 36 cases of diverticulitis. Halstead reported 4 cases of typhoid ulceration and several other reports occur in the literature. Tubercular ulceration has been noted by Antonetti, Dixon, Fitch, Smith, and others. Hilderbrandt reported a case of a Meckel's diverticulum containing a small tumor the size of a pea. Clinically, as well as pathologically, cases of diverticulitis present the forms of both the acute and chronic types. Chronic inflammation of the diverticulum results in adhesions to adjacent viscera and localized low form of peritonitis. Also strictures of its lumen which occur either in consequence of kinking or narrowing of the diverticulum, causing sometimes obstruction of the bowel. Acute infection, primary in character, has the same history as a similar pathological process in other organs, and result either in regression, gangrene, perforation, abscess formation, or adhesions. The mucosa of the diverticulum being similar to that of the intestine it is subject to the same diseases. Any form of enteritis may involve the diverticulum and form the starting point of an acute inflammation of all the coats of that organ.

Etiology: A greater proportion is found in children than there is of appendicitis in children. Sex is important: diverticulitis occurs three times as often in males as in females. Any agent capable of causing irritation is numbered as an etiological factor, notably the presence of foreign bodies or imprisoned secretions, as already noted fixation by mesenterium, adhesions, kinking or knotting, its presence in hernial sac, strictures, torsion, trauma, constriction at the neck by a loop of intestine, foreign bodies as fecal concretions, seeds, fish-bone, cherry stones, Murphy's button, ascarides, oxurias. Cahier mentions digestive disturbances. Clogg calls attention to narrowing of the proximal end of the diverticulum as a factor in disease, also previous inflammation, and remarks that the etiology is in many respects similar to that of appendicitis. The presence of foreign bodies, fecal concretions, etc., probably form the same secondary etiological factor as in appendicitis (Richter.)

Perforation, when it occurs, most often takes place at the tip, though in Smith's case it occurred near the attachment. I have purposely omitted mention of invagination or inversion in the etiology of diverticulitis because, while it does produce an inflammation of the diverticulum, there are other conse-

quences which, by their gravity, completely overshadow the inflammatory condition. I have, therefore, reserved that feature for consideration under an independent head.

Symptomatology: The symptoms of diverticulitis are so nearly a perfect imitation of appendicitis that I will only dwell upon points of distinction between the two conditions. So nearly complete is the resemblance of the clinical pictures of the two diseases that in every case of diverticulitis operated upon up to now the pre-operative diagnosis was appendicitis. There is one exception, Oberfeld's in Porter's series. The lesson we learn by attention to this similarity of symptom group and the impressions that will be made upon those who study the case reports, appended to this paper, is that in operating for appendicitis the lower two or three feet of the ileum should always be rapidly scanned for a diverticulum. A case is reported in which the abdomen was opened for appendicitis. The appendix was removed and did not appear to be very much diseased. The patient died the next day and autopsy disclosed a gangrenous diverticulum as the cause of death. This point is well illustrated in the cases reported.

Dr. R. C. Coffey, of Portland, in conversation with me related an unpublished case of his own in which extended search after the appendix had been removed revealed the true cause of the trouble to be an inflamed diverticulum. I am constrained to entertain the belief, theoretical though it may appear, that a considerable per cent. of our operative mortality in appendicitis may be accounted for by the overlooked diverticulum. One is apt to argue that since the two diseases are so nearly identical in symptomatology, etiology and pathology, and the two organs are such close neighbors, and we invariably operate for appendicitis as soon as the patient's consent is obtained, why split hairs over a diagnosis? In answering that argument I am permitted to justify my choice of this subject as worthy of consideration, even upon an important occasion like this. My answer to the inquiry is to point to the mortality statistics. Owing to the fact that up to the present time no cases have been operated upon except in the presence of the acute attack, the mortality has been high—11 of 23 cases died." (Keen's *Surgery*, Vol. IV, p. 672.)

In 1899 Henry Blanc read a thesis before the Faculty of Medicine of Paris, in which he reported a collection of 48 cases from the literature. Twelve of his cases were inflammatory and perforative. Of this number three were saved by operation; eight died, and one the result is not mentioned. Assuming that one also was saved, the table still shows a mortality of 75 per cent. In 21 cases

of general peritonitis due to gangrene or perforation 15 were fatal, or almost 75 per cent. M. F. Porter's table, published in 1905, shows a mortality of 60 per cent. arising from all forms of diverticulitis. "Frightful" he calls it. Gray collected and analyzed 32 cases of invagination; 13 recovered and 19 died, 60 per cent. mortality; 27 cases operated on, 14 deaths, 13 recoveries, mortality 53 per cent. One case recovered without operation. (O'Connor's.) The invaginated mass sloughed and passed per rectum. Dr. H. C. Deaver has the following to say relative to the subject: "The outlook depends largely upon the conditions being recognized early and immediate operation, since most patients die of peritonitis if not operated on early."

Concerning obstruction due to all forms of diverticulitis, Boldt collected 55 cases; 15 were operated on, 3 recoveries. Delore and Berard tabulated 32 cases operated on with 9 recoveries. Dr. Edred Corner, of London, speaking of inversion after examining the records of sixteen cases, says most of them were fatal and most of them were acute.

In the 36 cases I have examined in detail the mortality is 21.6 per cent., showing some improvement in the past five years, but still entirely too high. There is not in the whole domain of surgery another non-malignant affection with anything like the mortality rate as shown by abdominal crises caused by the persistent remains of the omphalo mesenteric duct. Let us ask ourselves, why is this? The answer is simple and direct, viz., deferred operation. In the group of cases collected from the literature by the writer, the recoveries of cases operated upon in the early inflammatory stage was 100 per cent. My 21.6 per cent. of deaths were wholly included in the perforated and gangrenous types. Let us ask ourselves a still more personal and more pointed question. If surgical procrastination bears the death fruit, why is procrastination indulged in? There can be but one answer: Failure to appreciate the significance of the symptoms as they confront the physician early in the case. If the statements of authorities are accurate, and we have quoted quite a number in this paper, that the symptomatology, pathology and clinical history of diverticulitis are identical with appendicitis, how are we to explain the postponement of operation and the consequent "frightful" mortality of diverticulitis? Cases of appendicitis invariably receive prompt surgical attention and a death from appendicitis is to-day a tragedy. We are therefore bound to conclude that the profession, through lack of reminder, has not devoted the attention to the diseased diverticulum that it deserves. We also conclude in the second place that the analogy of symp-

toms of diverticulitis and appendicitis is not so complete as they are reputed to be or as the authorities have stamped them.

Thirdly we conclude that the crises due to Meckel's diverticulum lack the severity of pain and depth of shock in their earlier stages which characterize the onset of other serious intra-abdominal diseases. Hence it becomes the most important duty which we have, in connection with the task set before us, to trace out the line of cleavage in the symptomatology betwixt diverticulitis and similar affections. As no single surgeon to date has observed a sufficiently large number of cases to gain enough individual experience to base on, we are forced to make a composite picture of the records available and learn our lesson therefrom.

We are bound to draw our inferences from the accumulated experience reported by the various observers. Many of the cases give the history of vague abdominal pains dating from childhood. In some the pain is related to attacks of enteritis. Longer periods of freedom from attacks exist in connection with diverticulitis than with recurrent appendicitis. Vomiting is as a rule coincident with the onset of pain, while in appendicitis it follows the pain twelve or twenty-four hours. The pain is not so sharp and excruciating as appendicitis because the opening between the diverticulum and ileum is larger and allows freer drainage than the appendix. Imprisonment of the products of inflammation does not as a rule occur unless there is torsion, therefore there is not the element of tension which multiplies so immensely the degree of pain. I think this more than anything else accounts for the mildness of the suffering. The low grade of pain accounts somewhat for delay of operation, until gangrene and perforation presents the picture of general peritonitis. Munro has pointed out that the pain of diverticulitis is more sudden in its onset and more abrupt in its departure than that of appendicitis. This is readily understood when the size of the canal of the diverticulum is considered in comparison with the lumen of the appendix. The location of pain, while not diagnostic, is sufficient to base a presumption upon. As a rule it is situated above the McBurney point closer to the median line. More frequently still the pain radiated from the umbilicus as a center. Especially is that true when the distal end of the diverticulum is attacked at or near the umbilicus.

In Oriatt's case of simultaneous diverticulitis and appendicitis there were two foci of pain. One over McBurney's point and one further in and higher up.

One other reason why the pain in diverticu-

litis is a lower grade than appendicitis is the absence of a mesenteric omentum in most diverticula. The absence of this structure allows greater freedom of motion and prevents the process of kinking which is a familiar habit of the diseased appendix. Other cases are reported in which the pain is located upon the left side. Blood in the stools is also mentioned as a symptom of some value. It is more indicative, however, of inversion than of primary inflammation of the diverticulum. Sudden remission of symptoms is a characteristic quite common in diverticulitis, more so than in appendicitis. Remission and exacerbation of symptoms often characterize the attack, until extensive peritonitis occurs as a result of perforation or gangrene.

Edred Corner lays great stress upon the dome shape of the abdomen with the umbilicus like a cupola upon its apex. Any congenital abnormality of the navel should be taken into account, such as undue protrusion or discharge dating from childhood. These things point to the persistency of the remains of the omphalo mesenteric duct and should be carefully considered in connection with the abdominal symptoms. Many writers lay stress upon the coincidence of other deformities, such as clubfoot, cleft palate, supernumerary digits, etc.

The statistics of A. E. Halstead do not support the value of these observations as regards diagnosis.

Our attention is also drawn to the conformation of the abdomen, the distention being greater above the umbilicus than below, which gives the abdomen the appearance of an inverted cone. In the early stages the iliac fossae are flat, in marked contradistinction to the distension in the corresponding stage of appendicitis. Constipation is not nearly so constant as in appendicitis, on the contrary diarrhoea is quite common.

Symptoms of inversion are those of intussusception. Inversion finally leads to intussusception of the bowel. It is more apt to occur in children, and is quite frequently accompanied with blood in the stools. It is generally preceded by a history of gastroenteric trouble or catarrh of the bowels in infancy. The inversion may consist of the entire structure of the diverticulum being turned into the lumen of the intestine or the mucous membrane alone may become separated from the underlying muscular structure and swing into the hollow of the gut, holding by a narrow stem like a pear hanging from the limb of a tree. The traction thereby exerted results in an intussusception and the usual group of symptoms. The mortality of intussusception from inverted diverticulum is very high.

The presence of a diverticulum, either alone or in conjunction with the intestine, in a hernia nearly always gives rise to acute symptoms. Porter reports 21 cases of hernia in which acute symptoms were brought on by inflammation of a contained diverticulum. "In one-fourth of the chronic cases of diverticulitis, the patient gave a history of previous gastrointestinal symptoms, often constipation and indefinite pains in the right para-umbilical region. This picture is made more complete by intermittent attacks of acuter pain and tenderness."

The only cases of diverticulitis that are likely to be confused with intestinal obstruction are those which have been allowed to progress to the advanced condition of intestinal paresis from sepsis. It becomes our duty in the light of investigation to make a diagnosis ere this stage of despair has been reached.

CASE REPORTS.

DR. NASSAU.—*Tr. Phil. Pediatr. Soc.*, 1907, 11, 39, reports that he was called to see a patient with supposed typhoid perforation. The man was so ill, he declined to operate. It was the first case of suspected typhoid perforation in which he had ever refused to operate, but the condition was so desperate that he felt justified in refusing. Autopsy showed a large Meckel's diverticulum perforated by a typhoid ulcer.

ERDMAN, J. F., *Annals of Surgery*, Vol. XLVI., Page 311, (Before New York Surgical Society, April 10, 1907), in discussing report of case by Dr. G. E. Brewer, reported as follows:

A man 38 years, in whom there was no strangulation of the gut, but gangrene of the tip of the diverticulum, its appearance being very similar to that of a necrotic appendix. Recovery. No details of symptoms given.

CAHIER, L.—*Revue de Chir.*, Paris, 1906, XXXIV, 338, reports a case of diverticulitis, with relapses simulating appendicitis, in a man of 22. At 19 years he had his first attack of abdominal crisis characterized by colicky pains, constipation, the pains in the ileo-cecal region lasting eight days. Three years later had second attack, accompanied by fever, for which he was in hospital one month. Six months after had a third and more severe attack than before, with abdomen distended, localized pain in appendicular region with maximum intensity over McBurney's point. Not yielding to expectant treatment operation was performed. On opening the abdomen the appendix was found normal, but a Meckel's diverticulum was in highly inflamed condition and adherent to the lateral wall of the large intestine. Resection of the diverticulum with removal of the appendix. The man made a perfect recovery.

Cahier, in 1906, collected thirty-six cases in which there was an inflammation of the diverticulum with symptoms markedly similar to those of appendicitis.

BROCA, A.—*Bull. et Mém. Soc. Chir.*, Paris, 1905, XXXI., 366, reports the case of a man, 66 years, who was an alcoholic subject, and had suffered from severe and painful attacks of colic with vomiting, enlargement of the abdomen, and constipation, for twenty years, at irregular intervals. In 1904 he noticed a small tumor in the right groin which became painful and was diagnosed as hernia. Taxis failed to reduce it and operation was done, although no urgent symptoms demanded it. An inflamed Meckel's diverticulum, 3 cm. long, was found adherent to the intestine, which was well marked by an inflammatory zone. He resected the diverticulum and sutured the intestine longitudinally. Patient developed a left-sided phlebitis from some unknown cause, which quite puzzled the operator

as it should have appeared on the side upon which he had operated, namely the right, and he cannot account for this complication. The patient eventually recovered.

RICHTER, HENRY M.—*Journal Gynecology, Surgery and Obstetrics*, Vol. II., Page 668. Report of Cases. (1) Patient male, Act. 21. Previous history negative. No abdominal crises. On admission to hospital presented picture of strangulated hernia, which appeared twelve hours before. Condition proved to be a herniated diverticulum. It was three inches long, one inch in diameter; adherent to hernial sac at apex; gangrenous for a distance of half an inch; there was no constriction any place. It is difficult to account for the gangrene unless it resulted from acute diverticulitis. The adhesions were old. It is most likely the hernia had been down some time and that there had been a previous diverticulitis. The present attack resulted in gangrene. Recovery.

(2) Intussusception by Meckel's diverticulum; reduction of intussusception; removal of diverticulum. Death. Patient, infant, thirty-four months. Constipated habit; bottle-fed; abdominal pain; vomiting; passing mucous and blood per rectum. Abdomen distended. Operation eighteen hours after onset.

(3) Large congenital hernia into the cord. Death in three days. P. M.

Richter also reports a unique case in which there was a diverticulitis in inguinal hernia without evidence of strangulation by the ring.

VAN SWERINGEN, B.—*Journal, Surgery, Gynecology and Obstetrics*, Vol. VIII., Page 405, reports the case of a female, age 28. Severe abdominal pain developed during night. History of pelvic attack in 1900, or nine years previous. Five years later attack of pain on right side. In the interval he had no special discomfort.

When seen in the final attack the case presented the familiar picture of acute appendicitis and was so diagnosed. On opening the abdomen adhesion was noticed attached to right edge of incision. On following this down it was attached to a cyst-like tumor about the size of a small orange, which looked very dark in color. Its bowel attachment was opposite the mesentery about an inch in length. The pedicle was found twisted on itself sufficiently to obstruct circulation and the abdominal attachment was also twisted. The contents of the cyst was largely gas and fluid feces. Operation; recovery.

BEVAN, DR.—*Annals of Surgery*, Vol. 37, Page 297, (Discussion of paper by Dr. A. E. Halsted), reported the following case: Woman with a suppurating fistula at navel, with large abscess between wall and omentum. Abscess communicated with fistula. In the sac was a piece of wood the size of a toothpick.

JOAS, N.—*Wien. Med. Wochschr.*, 1907, LVI., 882, reports the case of a man of vigorous constitution and an athlete who received a violent concussion of the whole body by the sudden jarring of the horse he was riding, and immediately felt intense pain in the appendiceal region. Examination a few hours after the accident revealed the following: Severe pain, right thigh slightly flexed; careful inspection of abdomen shows a flat arching, size of palm of hand, very painful to the touch; the skin shows no change at this site. Percussion elicits a distinctly clear tympanic sound. Palpation, though difficult on account of the great pain, shows through the abdominal wall the presence of an oval elastic and very slightly movable tumor. T. 36.8, P. 78. No bowel involvement or flatus at this stage. The symptoms pointed to appendicitis. The morning following T. and P. were the same, but during the day meteorism and distension of the abdomen, with singultus and nausea became marked. Palpation of the iliocecal region shows the presence of the above mentioned "sausage-form" tumor, with comparatively little pain, resembling that of an incarcerated hernia. Laparotomy showed a strangulated diverticulum alongside the mesentery, inflamed but no purulent condition anywhere. Cecum, appendix and adjacent loops of intestine normal.

Recovery complete.

OVIATT, CHAS. W.—*American Practice of Surgery*, Vol. 7, Page 701, reports the case of a patient, a male, 36 years

of age, who had had three well-defined attacks of appendicitis within a year. The last attack differed from the other in that there were two distinct foci of pain and tenderness, one below McBurney's point and one about 12 cm. above it, nearly on a line with the umbilicus at the outer border of the rectus muscle. He was admitted to the hospital while convalescing from the third attack. At this time the upper focus was more sensitive to the touch than the lower. The ordinary incision along the border of the rectus was made, and the appendix, in which was lodged a good-sized fecal stone, was removed. The incision was then extended to the upper seat of tenderness. At this point adhesions were encountered. They were broken up, and the presence of a Meckel's diverticulum, 8 cm. in length and about two-thirds the size of the ileum, was thus revealed. It had evidently been recently in a state of active inflammation. It was removed close to the bowel.

GRAY, H. T.—*Annals of Surgery*, Vol. 48, Page 801, reports the case of a boy, age 8 years. In infancy once had blood in his stools. At five years had an attack of violent abdominal pain; vomiting; passage of blood per rectum. Mother noticed frequently on going to stool the child went white and stamped as if in pain. Present illness began with pain across umbilicus. Two days later bowels moved as result of licorice powder, pain diminished and he felt better. The afternoon of third day was again attacked with violent abdominal pain. The bowels acted. Next day pain more acute, retching and constipation. Next day better, refused food, vomited three times. Next day vomited three times also. No blood at any time passed per rectum. Was admitted to hospital on seventh day of illness with temperature 101 degrees, pulse 100. Distended abdomen, coils of gut outlined and vermicular motion visible everywhere. No tenderness or rigidity; no tumor. Child slept an hour and seemed comfortable. The umbilicus was raised and dome-shaped. Diagnosis intestinal obstruction due to persistent Meckel's diverticulum.

Operation revealed an intussusception easily reduced until cecum was emptied, then found an irreducible enteric intussusception remained which had caused the ileo-cecal one now reduced. The irreducible mass was about four inches long and extended to three inches above the ileocecal valve; while through the intestinal wall below the presenting part could be seen and felt a polypoid mass projecting into the lumen of the termination of the ileum. Resection performed; end-to-end anastomosis. Death 15 hours after operation. Examination of specimen showed that the intussusception had been started by an invaginated Meckel's diverticulum about two and one-half inches in length. All the coats complete invaginated and with the intestinal wall quite gangrenous. In Gray's table of forty cases of invagination he mentions condition of diverticulum in nineteen; four diverticulae were gangrenous; seven showed evidence of previous inflammation; one showed accessory pancreas; one sub-serous lipoma; one polyp. One invaginated diverticulum only.

GRAY, H. T.—*Brit. M. J.*, 1907, 11, 823, reports a case of primary diverticulitis, due probably to infection with virulent organisms. There was no suspicion of its being a distension ulcer, as there was no sign of the diverticulum being twisted or of intestinal obstruction.

Boy, 7 years, seized with sudden and very acute pain. He woke up and screamed and bowels were open at the time. There was vomiting, continual pain, localized to the umbilical region. The child had heart disease and though cyanosed and suffering from dyspnea, with the alae nasi dilating with each inspiration, the facies was distinctly of the abdominal type. Abdomen showed good movement above the umbilicus, but was nearly motionless below, while in the hypogastric region a rounded prominence was apparent. Muscular rigidity was marked in the lower part of the abdomen, while a rounded swelling dull to percussion and more or less median in position, suggesting distended bladder, could be made out by palpation. The abdomen elsewhere was not distended.

Operation revealed a clean-cut oval perforation of a conical Meckel's diverticulum. The edges of the ulcer were clean-cut and not thickened; the ulcer was evidently acute

three-fourths inch by one-half inch and situated at the lateral aspect of the diverticulum. The latter structure was situated near the pelvis, where there was a spreading peritonitis. Recovery.

TAYLOR, DR. W. J.—*Annals of Surgery*, Vol. XLIV., P. 124 (Discussion of paper by Dr. J. B. Roberts) mentions two cases. One occurred in a child who is supposed to have had three attacks of appendicitis. When the abdomen was opened a globular mass protruded and examination revealed a large diverticulum which was twisted on itself three times, the entire mass being gangrenous. It was cut away and the gut united; the result of the operation satisfactory.

J. H. Gibbon reported one case. Diagnosis, general peritonitis. Operation gangrenous; diverticulum constricting bowel.

16. COFFEY, R. C.—*Annals of Surgery*, Vol. XLV, P. 45, reports a case as follows: Patient 7 years of age. When two years old he had severe cramps with cold spiration standing on face and body lasting thirty-six hours. During attack enormous doses of cathartic medicine were given. Action was produced which contained quantities of blackberry seeds and to their presence was attributed the attack by the physician and people. He vomited every few minutes during attack. From this time he had attack every month, varying in severity, but one striking feature was that he always passed blood at every attack. Sometimes his attacks would occur every week. Repeated recurrence of attacks for four years, when he had an attack of jaundice and passed a lot of blood. He was taken to the hospital, after an extended period of expectant treatment, and operated on immediately. Resection was made. Recovery.

17. HOLLANDER.—*Berl. Klin. Wochschr.*, 1906, XLII, 990, reports case of gangrenous Meckel's diverticulum filled with gall-stones, with perforation, in a man who was seized eight days before with violent symptoms of appendicitis. The usual operation for appendicitis was done next day, that is the ninth day, since onset of the disease. The appendix was removed, which upon section showed that the inflammation had run its course. Another source of the foudroyant peritonitis was now sought for. It should be stated that on opening the abdomen turbid, serous fluid and old blood coagula came from the smaller pelvis. On taking out the small intestine, one foul smelling loop of gangrenous intestine was discovered, with adhesions everywhere and a Meckel's diverticulum also in advanced state of gangrene. The whole process was resected. Patient was in normal condition on the twelfth day.

The diverticulum contained numerous gall-stones (number not given) of the cholestearin variety and faceted.

18. RUSHMORE, JOHN D.—*Annals of Surgery*, Vol. XLVI., P. 212, reports a case (Before the N. Y. Surg. Soc., April 10, 1907) of a boy, nine years. Sudden seizure on street twenty-two hours before admission to hospital; some nausea; no vomiting; frequent desire to stool; no blood or mucus; slight distension. A tumor palpable between gall-bladder and umbilicus. Tender on pressure. Intussusception was easily reduced to last inch or two, which when reduced showed a diverticulum at bottom of intussusception, much swollen. Resection, end-to-end anastomosis. Recovery.

19. WOOLSEY, DR. GEO.—*Annals of Surgery*, Vol. XLIII., Page 764, reports a specimen (Before the N. Y. Surg. Soc., Feb. 14, 1906) removed from a woman in the course of an operation for extirpation of the uterus and adnexa for malignant adenoma. While inserting a pad into the abdomen he came into contact with a pear-shaped body about two and one-half inches long, which seemed to be filled with solid contents. To the touch it resembled the gizzard of a chicken filled with small pebbles. It was located about eighteen inches from the cecum and proved to be a Meckel's diverticulum. It contained several hundred dark small round and oval bodies, most of which gave a faceted appearance. These at first sight were regarded as true gall-stones, so they were sent to the pathologist who reported that some of them were grape-seed, but that most of them were tomato seed with a number of raspberry and other

seed. The sac contained no fecal matter, nothing but these seed.

20. LILLIENTHAL, DR. H.—*Annals of Surgery*, Vol. XLIII, Page 300, reports (In discussing a case of strangulation reported by Dr. Chas. Gibson before the N. Y. Surg. Soc., Nov. 8, 1905) the case of a girl, 6 years old, who had just recovered from whooping cough, during the course which she had attacks of abdominal pain. When seen she had been sick two days. The bowels had moved after castor oil. Some abdominal distension. The temperature was not high and the people were averse to operation. She was sent to the hospital and immediately went into collapse. Upon opening the abdomen the operator came upon a Meckel's diverticulum five inches long and characteristic in appearance. It was turned under a fold of the mesentery and attached somewhere in the right loin. The belly was full of bloody fluid and the area of gangrene had extended up to the small intestines. The patient died a few hours after the operation. The diverticulum was not removed.

21. PECK, DR. CHAS. H.—*Annals of Surgery*, Vol. XLIX, P. 134, (Before the N. Y. Surg. Soc., Oct. 28, 1908) reports the case of a man, 32 years old, who was admitted to Roosevelt Hospital, July 12, 1908, complaining of abdominal pain fairly constant and severe, with colicky exacerbations of two weeks' duration. Three years before he had been operated on at another hospital for acute gastric symptoms suggestive of ulcer, with impending perforation, and a gastro-enterostomy was performed with a Murphy button. His post-operative recovery at that time was prompt. His symptoms were relieved and he was free from abdominal symptoms until the onset of the pain two weeks prior to his admission. There was no nausea or vomiting; no constipation, but the pain increased in severity and was aggravated by sitting, standing, and pressure, but not by taking food. Two days before admission his pain was especially severe and he vomited for the first time. On admission his abdomen was not distended. There was slight tenderness in the lower abdomen to the left of the median line; no rigidity; no mass; temperature, 99; pulse, 88. He improved somewhat under observation. It was not until three days later that the fact that the Murphy button had never passed was elicited; a radiograph showed its shadow near the sacral promontory. Median laparotomy was performed July 17, 1908. The loop of ileum containing the button was easily felt and drawn into the wound. The button was firmly incarcerated and could not be moved from the site of impaction where it had lodged end on, its large patent lumen giving free passage to the contents of the gut. Just proximal to it was a short capacious Meckel's diverticulum large enough to have held the button, the walls of which seemed thickened and hypertrophied. There was no ulceration of its mucus membrane. A resection of the ileum, including button and diverticulum, was performed. An end-to-end anastomosis with linen thread suture; recovery.

22. V. KANTZ, A.—*Wien. Klin. Wochschr.*, 1906, XIX, 440, reports the case of a man, 64 years of age, taken with painful swelling, without any common cause, in right groin, which on admission to hospital had attained the size of a walnut. On incision foul, greenish pus was evacuated, intermixed with gas bubbles. Condition went on normally up to the fifth day, when the wound, penis and scrotum became the seat of erysipelas, to which he succumbed three days later in spite of heroic measures. Autopsy revealed a fistulous tract, size of the little finger, leading from the right inguinal region to the abdominal cavity. At the upper end toward the right of the bladder and immediately adjoining the right lateral vesico-umbilical ligament there was a Meckel's diverticulum four and one-half cm. long, the apex of which was gangrenous and perforated. It was situated about 80 cm. above the ileo-cecal valve and had a well-developed mesentery. Its serosa was highly injected and at various portions covered by fibrino-purulent matter. Diameter, one and one-half cm., contained no pus or foreign body, its lumen was free and communicated with the ileum by an orifice of three mm.

He also reported a similar case in a woman, 40 years,

having the same symptoms, but recovered after operation.

24. GEBELE, MUNCH.—*Med. Wchschr.*, 1908, LV., 1236, reports a case of simultaneous appendicitis and inflammation of Meckel's diverticulum, of which only four cases are on record (Hilgenreimer 2, Moore 1, and Squires 1.)

Female, act. 48, gives history of attacks of appendicitis in 1904 and 1905. The present attack began June 28, with chill, vomiting and diarrhoea. On operation found the appendix greatly enlarged, highly inflamed, but not perforated and containing a large enterolith in its peripheral portion. Upon removal of same and eventrating the small intestine an abscess was discovered near the junction of the jejunum and ileum, with fibrinous adhesions of the adjacent parts. About 30 cm. above the ileo-cecal valve, there was a pedicled tumor, size of a pigeon's egg around which a loop of intestine had become twisted. Upon extirpation this proved to be a Meckel's diverticulum, and on section showed typical, recent fibrinous inflammation. The subperitoneal tissue was edematous with well-marked capillary hyperemia. The diverticulum measured 5 cm. and diameter two and one-half and three and one-half cm. Its lumen allowed the passage of a thin sound, with a perforation at the site of junction of pedicle with the body of the diverticle. Patient recovered.

25. HILDEBRANDT, PROF.—*Charité-Amalen*, Berlin, 1906, 442, Reports a case of a girl, 11 years, complaining of pain in abdomen for about nine months, accompanied by bowel troubles, sometimes loose, then constipated and occasionally colic. She took the waters at Carlsbad, with some relief, but finally sought operative measures. On admission nothing noteworthy was observed and was treated expectantly. After eight days she again complained of pain, bowels constipated, abdomen became swollen and on palpation a cylindrical, elastic tumor was detected in the region of the first spina anterior superior towards the symphysis, with some gurgling at times.

Operation: Abdomen was opened by incision six cm. lower side, para-rectal. On examination of the intestines, at the lower end of the ileum, one-half m. from the ileo-cecal valve, a cylindrical appendage, size of the little finger, was found attached by adhesion to the mesentery, the distal end being free. Within its lumen was a movable mass. This and the appendix were removed. Recovery complete in three months.

Examination of the mass showed a Meckel's diverticulum containing a small tumor, size of a pea, inserted by a broad basis, with bright red inflammation of the mucosa. The tumor, histologically, proved to be gastric mucous membrane made up into layers. Fresh hemorrhage, swelling of the follicles and accumulation of round cells in the vicinity of the glandular tubules were also present.

26. VIANNAY, C.—*Arch. gen. de Chir.*, Paris, 1908, II., reports case of boy, 11 years, antecedent history of no import; was taken suddenly with abdominal pain in region of appendix five days before coming to hospital. Bowels constipated, profuse vomiting, with fever at 40 degrees C. and high pulse. On admission the abdomen towards the right side was distended and a tumefaction was felt in the median line, below the umbilicus. Liver dullness absent.

On operation, diffuse peritonitis was found, the intestines were matted together and about 80 grammes of pus, fetid in character, were evacuated from a pouch which was traced to a perforation of an highly inflamed Meckel's diverticulum. The patient's condition was so bad that death followed within a few hours. Autopsy confirmed the condition discovered at operation.

27. TURNER, C. H.—*Lancet*, Lond., 1908, 1, 17, reports the case of a man, 23 years old, seized with violent pain in lower abdomen with vomiting, on the morning of June 3. Admitted to hospital next day, with temperature of 101, pulse 112, and all the signs of a diagnosis of acute appendicitis with fairly extensive localized peritonitis. Operation on third day from onset of symptoms. Incision four inches long was made over McBurney's point, but a little further out, the muscles being split in the direction of their fibres. On opening the peritoneum about six oz. of turbid fluid escaped and distended and somewhat congested coils of small intestine presented. The

cecum could not be felt in the iliac fossa nor could any large intestine be pulled out. The incision was extended two inches and the whole hand introduced. A portion of the large intestine could then be felt quite collapsed and lying high up. This was pulled down to be continuous with the transverse colon; traced in the other direction it was found to take a turn upwards and forward towards the umbilicus, and here a slight adhesion gave way and the cecum was brought out of the wound and examined; it was also collapsed and the appendix was found to be healthy. The ileum was then followed up and the first foot was collapsed and firmly adherent to ant. abdm. wall, just at the level of and to the right of the umbilicus. The first incision was covered with sterile gauze and a second incision, three inches long, was made through the fibres of the right rectus muscle. On incising the post. layer of the sheath of the rectus what was apparently an abscess cavity containing four ounces of very offensive pus was opened. This was swabbed up and washed out with 1-40 sol. carb. acid and then explored with the finger; the walls were quite smooth and felt as though formed by mucous membrane. The peritoneal cavity was opened next and carefully packed off. The abscess cavity described above was then found to be the inner surface of the fundus of a dilated and gangrenous Meckel's diverticulum, which was adherent to the abdominal wall. It was then carefully separated and the coil of bowel from which it arose was drawn out of the wound. The diverticulum sprang from the ileum, about twelve inches from the ileo-caecal valve. Its proximal portion was stenosed and its distal portion or fundus was gangrenous, and dilated to the size of a Tangerine orange and contained four ounces of pus. The diverticulum was removed in the same way as an appendix and the stump tucked in, the wall of the intestine being brought together over it with Lambert's suture. The displacement of the cecum was due to the mesentery of the ileum being adherent to the meso-cecum and meso-colon, and to slight adhesion of the omentum to the outer and posterior wall of the cecum. These were separated and all bleeding points secured. His condition gave rise to some anxiety for the first thirty-six hours, owing to the difficulty of overcoming the paralytic distension of the bowel, but this yielded to treatment by calomel and enemata. Wound soundly healed in fourteen days.

28. CLOGG, H. S.—*Brit. J. Childs*, Dis. Lond. 1906, III, 41, reports two cases as follows:

Case 1.—Female, act. 13 years. Illness began abruptly with acute abdominal pain, sickness and fever. The pain centered around the umbilicus and later on the lower abdomen. The sickness abated after twenty-four hours. Admitted on fifth day of illness, T., 103 degrees; P., 112. Pain in lower abdomen. Abdominal movements somewhat restricted, especially below. A swelling was felt in the hypogastric region, more so towards the right side. This was tender and gave a dull percussion note. Diagnosis: Suppurative appendicitis. The one point commented upon at the time was the situation of the swelling, more towards the mid-line, the right iliac fossa being quite empty. At the time he thought very little of this, having on many occasions seen an appendix abscess in a similar position in children.

On opening the abdomen he found diffuse fibrinous peritonitis which glued the intestinal coils together and on separating these a very distended coil of intestine of a bluish color was seen lying over the right brim of the pelvis. On separating this and drawing it up to the surface it was found to be bound down by a cord, running from the end of it to the pelvis; this was divided and the intestine drawn outside the abdominal cavity. This distended bluish coil was then seen to be an acutely inflamed Meckel's diverticulum, having a very broad attachment to the intestine. The intestine to which the diverticulum was attached was resected and end-to-end anastomosis performed by two rows of sutures. Child was very ill but recovered. The diverticulum measured four inches in length, was acutely inflamed and there was no obvious ulceration nor constriction.

29. Case 2.—(Clogg.)—Female, act. 11 1-2 years. Six months previously had an attack of acute abdominal pain, sickness and fever, lasting ten days and considered as ap-

pendicitis. It was noticed, however, that the pain and tenderness were more hypogastric in situation than in the right iliac fossa. A tumor was noticed. The present illness had a similar abrupt onset and the symptoms were identical with those of the former illness. When seen on the third day the signs, symptoms and abdominal swelling were precisely as in Case 1. On operation some local, not limited, peritonitis was present and an acutely inflamed diverticulum was again found. This was in places very intimately adherent to neighboring intestinal coils. These adhesions were not recent and were regarded as the remains of the former attack of peritonitis, which must be considered as having an origin in the diverticulum. The appendix was healthy. The diverticulum was separated with some little difficulty and was cut off from the intestine, the hole in the latter being closed with two layers of sutures. Its base was not so broad as in Case 1. Recovery.

30. WOODY, F. S.—*Tr. Phil. Pediatr. Soc.*, 1907, 11, 39, reports case of perforation of Meckel's Diverticulum; operation; recovery.

Boy, 9 years, two days before admission was seized with severe epigastric pain followed by vomiting, the latter continuing for thirty hours, during which time there was no movement of the bowels nor passage of flatus; abdomen distended and tympanitic when admitted to hospital; pain on both sides of lower abdomen, and tenderness in the iliac fossa, more so on the left. On the lower side of the abdomen, immediately below the umbilicus, there was some rigidity, and at this point, there appeared to be a mass about the size of an egg. Laparotomy was performed at once. The peritoneum was injected and a large amount of sero-purulent fluid was removed. On the lower side was a large mass consisting of the diverticulum, adherent omentum, and several coils of small intestine. The diverticulum was two and one-half inches long and at its middle was a perforation the size of a pea. The bowel was resected and an end-to-end anastomosis done with Murphy button, which was passed on the ninth day. Recovery.

Dr. H. C. Deaver said he had operated on this case, which was diagnosed as one of appendicitis with spreading peritonitis. When he opened the abdomen he found a sero-purulent fluid escaping, which he could not account for; the appendix was twice the normal size, no perforation and not sufficient disease of the wall to contaminate the peritoneal cavity. He removed the appendix and examined the region where the boy had complained of a great deal of pain. He delivered a mass of omentum and small intestine; there was some fecal matter in this mass, which escaped during the manipulation. The wall of the intestine was narrow at both the proximal and distal end of the diverticulum. The latter was removed flush with the wall of the intestine and the opening closed with Lembert sutures. After invagination the intestine was so narrowed that he was obliged to resect two inches of the gut. The diverticulum, of the same calibre as the intestine, was perforated at its end.

Dr. Deaver thought that the one thing favorable in this case was that the child had not been previously purged. If it had been, there would have been fecal extravasation and the result might have been different.

This was the second case of Meckel's diverticulum seen by Deaver. The first was brought to him as one of intestinal obstruction. He operated and found the diverticulum constricted by a band at its base. He removed it, but the patient died next day.

31. EWING, D. A.—*J. A. M.*, Vol. LI., P. 2060, reports the case of a man, age 37. As a boy had frequent attacks of pain in lower abdomen. He had acute appendicitis five years ago; another two years ago. Several weeks prior to present attack had uncomfortable feeling in lower abdomen, but no acute pain. On September 27th patient was taken suddenly ill with severe pain in lower abdomen. The pain was low down on the left side and there was tenderness on deep pressure upon both sides and muscular rigidity. Twenty-two hours later incision was made over appendix. The appendix was bound up in adhesions. During operation lower ileum came in view, presenting a diverticulum about the size of a walnut. It was acutely inflamed and

contained no concretions. Its walls were thin and while being examined it inflated to twice its natural size. It was invaginated into the bowel and closed over with double row of sutures. Recovery.

32. WINSLOW, R.—*Am. Med.* 1906, XII., 485, reports three cases of Meckel's diverticulum.

Case 1.—Boy, 16 years, family history unimportant. On admission to hospital was in a grave condition, pulse, 120; temperature, 99.6; respiration, 30; belly hard and symptoms suggesting appendicitis and peritonitis. Operated on at once and pus found floating freely in the abdominal cavity, with no walling off of the intestines. The appendix was removed, but did not appear to be sufficiently distended to explain the symptoms and further search revealed a diverticulum in a gangrenous condition. This was removed and drainage instituted, but the boy rapidly grew worse and died two days later.

33. Case 2.—Female, act. 26; married; three children. On admission a somewhat painful and tender lump was present in right iliac fossa in the location of the appendiceal swelling, first noticed after her last confinement, which was normal. When first felt, the lump was about the size of a walnut, gradually increasing to that of a small orange. It extended downwards, towards the pelvis, and was somewhat movable, from side to side. There was some rigidity of the abdominal wall. The condition was thought to be due to an appendicitis surrounded by omentum.

An incision through the right rectus muscle four inches long was made, exposing the mass which appeared to be quite complicated in character. After separating the adherent omentum, a good-sized pus tube was seen to form a portion of the swelling, with a large cystic ovary in close proximity, both of which were removed; it was seen that still other structures were involved. By careful dissection a piece of bowel was detached, which at first looked as if it was a portion of the small intestine torn across, but it turned out to be a Meckel's diverticulum, several inches long, with its extremity expanded and inflamed. The diverticulum was excised and the opening into the intestine sutured. In addition to the foregoing structures, a chronically inflamed appendix, enlarged and indurated, formed a part of the lump. This was excised in the usual manner. In separating the adhesions some pus was encountered. Recovery prompt.

Author thinks that a chronic appendicitis was the first pathologic entity in this case, then by proximity a diverticulitis, and a pus tube due to infection subsequent to parturition. It is certainly uncommon for a pus tube to reach up to the iliac fossa and form a circumscribed tumor in this location, but the conjunction of all these morbid conditions is not only rare but worthy of record.

Case 3.—Boy, 10 years. Seven days before admission was taken suddenly with pain in lower left side of abdomen, radiating upward, vomiting, high temperature, 104 degrees, and pulse 140 degrees.

Incision through lower rectus muscle. A large amount of sanguine purulent serum escaped on opening the peritoneum and the intestines were covered with fibrinous exudate. The cause of the trouble was found to be an intestinal obstruction due to a Meckel's diverticulum, which was tightly looped around a coil of small intestine. The distal end of the diverticulum was gangrenous, very much enlarged and adherent to the lower margin of the umbilicus, while the proximal portion was drawn into a cord, making the mass very much shaped like a lady pear. The diverticulum was detached from the abdominal wall, the intestine released, the diverticulum excised and its opening into the gut sutured. Patient died next day.

STATISTICAL STUDY.

The following statistics represent fairly the progress made in the last five years in the management of diseases of the diverticulum. In September, 1905, Porter reported cases operated on for all forms of disease of this diverticulum 139; recoveries, 65; deaths, 65; result not stated, 9; mortality, 50%.

II. T. Gray, December 1908, presents an account of 27 cases of invagination of the diverticulum operated upon, with 13 recoveries, mortality 52%.

I have collected 36 cases of diverticulitis of all forms save that of obstruction by band, with sufficient detail to make them valuable for a statistical study. I also find about 30 cases too meager in detail to furnish available material to base conclusions on. This does not include 36 cases reported by Cahier, nor the 48 cases reported by Henry Blane.

The following is intended to show the different groups:

M. F. Porter . . .	83
H. T. Gray . . .	40
Author	37
L. Cahier	36 (Not analyzed)
H. Blane	48 (Not analyzed)

If those of Cahier and Blane were included it would give us the grand total of 273 cases, but as I have not seen original translations of Cahier's and Blane's reports I am not able to state whether their groups contain cases identical with those included in the reports we have analyzed. Hence their numerical inclusion here is made tentatively.

The following analysis is submitted: 37 cases are reported. In one case (Nassau) there was no operation and patient died. Autopsy revealed typhoid ulcer. 33 analyzed. In another case, mentioned by Gibbon, there was operation, but the report I have does not state the result.

The varieties represented are as follows:

Perforation, 4; deaths, 2; recoveries, 2.
Gangrene, 8; deaths, 3; recoveries, 5.
Inflammation, 11; deaths, 0; recoveries, 11.
Intussusception, 4; deaths, 2; recoveries, 2.
Foreign bodies, 3; deaths, 0; recoveries, 3.
Hernia, 3; deaths, 0; recoveries, 3.
Ulcer, 2; deaths, 1; recoveries, 1.
Abscess, 2; deaths, 0; recoveries, 2.

This table shows 8 deaths in 37 cases reported, or 21.6%. It also demonstrates that in five years the mortality rate has been cut to nearly one-third, for in Porter's collection the mortality rate was 60%. For intussusception the rate has not been improved, but remains at 50%, as reported by Gray in 1908. The causative factors in the cases herein reported are found upon analysis to be as follows:

Primary infection	12
Hernia	3
Foreign body	3
Inversion	4
Volvulus	2
Tumor	1
Strangulation by intestine	3
Ulcer	2

These figures illustrate the variety of peril to which the diverticulum of Meckel is exposed. A search of literature discloses many other lesions to which this appendage is liable. Halstead has reported one personal case of typhoid ulcer and perforation and collected three others from the literature. Cahier reported six cases of typhoid ulceration occurring in the 36 cases analyzed by him. Fitch, Dixon and Smith cited by Cahier report each one case of tubercular ulceration of the diverticulum. One case of traumatic haematoma of the diverticulum. One case of traumatic haematoma of the diverticulum is reported by Gally and one by Halstead, both cases resulting fatally.

Nine cases of diverticulitis are reported in Cahier's article as resulting from foreign bodies, to-wit: 3 fish bone; 3 fecal calculi and 3 spiny bodies.

The following will serve as an illustration of variety of foreign bodies lodging in the diverticulum: Korte, cherry stones, one case; Dennice and Best, "other cases;" Husten's cases contained fecal concretions and cherry stones; Galeazzi's case contained fecal concretions. Intestinal round worms by Hohlbeck and Escher, and a fish bone by Henry Blane. These, taken together with the three cases reported in this paper, as follows: One by Woolsey, containing seeds of tomatoes and blackberry; one by Hollander containing gall stones; one by Peek containing a Murphy button, make rather a startling array of miscellaneous drift. The pathology, in consequence, is appreciated on the instant and will not be dwelt upon now.

The diverticulum is also subject to cysts and twists. A cyst will generally culminate in the latter and vice versa (Fitz). Van Sweringen's case belongs to this class.

Four cases are cited by Halstead where torsion occurs at the point of attachment, with only sufficient tightness to cut off communication with the bowel, accumulation takes place in the distal portion with dilatation and thinning of the walls and a cyst finally results. The resulting cyst, by its freedom and its weight, is likely to become further twisted at its pedicle and become gangrenous or fall across a section of bowel and occlude its lumen, either by its globular form or cord-like stem. So far as I can learn the cases reported have contained mucous or liquid feces. Sometimes fecal concretions have been found floating in the liquid content. In the event that torsion takes place with sufficient firmness to occlude the circulation, gangrene of the wall of the diverticulum quickly follows, accompanied by sloughing perforation, escape of feces, culminating in either local or general peritonitis.

SUMMARY.

(1) Diverticulitis must be rare on account of the uniqueness of Meckel's diverticulum, but a study of the pathology is important because of its high mortality.

(2) The diagnosis is very difficult and nearly always confused with appendicitis.

(3) It is important to bear in mind that the two diseases may exist simultaneously, because cases are reported where the appendix was removed and the patient died of the unrelieved diverticulitis.

(4) Pre-operative diagnosis can be made in a large number of cases.

(5) Early operation is as essential to the life of the patient in diverticulitis, as it is in appendicitis.

(6) Diagnosis can be based upon the following symptoms:

(a) Location of pain above and median to McBurney's point of centering around the umbilicus.

(b) History of ill-defined abdominal symptoms dating far back into childhood.

(c) Milder character of the pain as compared with appendicitis.

(d) Abrupt cessation of pain.

(e) Vomiting coincident with the onset of pain.

(f) Blood in the stools. (Rare.)

(g) Constipation not so marked or as constant as in appendicitis.

(h) Diarrhoea quite common.

(i) Dome shape of the belly.

(j) Protrusion of the umbilicus.

(k) Iliac fossae are likely to be rather flat than distended.

(l) The abdominal distension is greater above the umbilicus than below, giving to the abdomen the appearance of an inverted cone.

(m) Quite often the crises are accompanied or preceded by gastroenteritis.

(n) Abnormalities of the umbilicus.

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ORATION IN MEDICINE

SOMETHING OLD AND SOMETHING NEW IN MEDICINE.*

By D. O. HANCOCK, HENDERSON.

I count myself happy to stand in this presence at this hour. To us is given the privilege of healing the sick. The iron of helpless sickness and remorseless death enters deep into the heart of humanity. Whoever comes to men with weapons wherewith to fight these enemies is made welcome. There are no circumstances of human life that do not open a way for him who is willing to bear burdens and to cheer the hearts of his fellow men. The greatness which comes by service is a

greatness which can constantly be exercised. There is no iron law of mortality. The vital resources of our country, measured by earning power, are four times our wonderful physical resources. The conserving of vital resources is the larger problem of State and national efficiency. For another year you have guarded well the "Altar Fires" of our profession.

Napoleon was about to refuse clemency to the imprisoned Williams, when the Queen Josephine, with jeweled finger, ran down the line of petitioners to Jenner and uttered his name. The Emperor paused, and exclaimed—"Ah, we can refuse nothing to that name." So well have you wrought that our Governor and Legislature have felt a similar impulse, and we have received much at their hands. If human hearts are thus touched with devotion to service, may we not hope for much of blessing when our work is done? Methinks St. Peter will open wide to every doctor.

Since last we met in annual session "Flowers have faded like many hopes; leaves have fallen like our years; clouds have fled like illusions; light diminished like intelligences; the sun grown colder like affection; and rivers frozen like our lives;—all having a secret relation to our destinies. But after winter the "Chamber of Hours" was opened and blossoms heard the voice of spring; when violet clusters were flung off the lap of earth and chaplets of roses were braided in the hair; when the sound of the flute was heard and choirs chanted hymns to semele." Then came summer's noon—

"And every orange bud
 Hung languid o'er the ev'nal flood,
 Faint as the lids of maiden's eyes
 Beneath a lover's burning sighs."

It is Autumn again—magnificent autumn. The leaves have changed color, not from the blighting touch of frost, but from the process of natural decay. They fall when the fruit is ripened and their work is done. Their splendid coloring is but their graceful and beautiful surrender of life when they have finished their summer's offering of service to God and man. We are again in annual session. Grant that the coloring of Gray, which has increased among us, represent but our summer's offering of service to God and man.

I ask your indulgence while I speak of—

"SOMETHING OLD AND SOMETHING NEW
 IN MEDICINE."

First and chiefest the year 1910 presents to the public the most perfect physician the world has ever known: a man whose personal and scientific qualifications are unquestioned and unquestionable; a man who is honest and true, and just and pure. The ancients de-

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

manded of physicians a fine person, absence of passion, decorum, chastity, temperance, veracity, consideration for the sick, generosity, diligence, earnestness, freedom from boasting, secrecy, a desire for knowledge which scorned not even the lessons of an enemy, and above all, reflection and independence of thought. They demanded also that he wear his hair cut short, keep his nails clean and close cut, and wear a sweet-smelling dress. That his speech be soft, clear and pleasant; and that transactions of the home be not bruited about. The requirements of *now* are certainly no less.

A state book of the 17th century enumerates the following practitioners of medicine:—Division I,—The Medical profession proper, Class a, Medici in general, commissioned court, field, hospital and plague medici; class b, Surgeons, Barbers, Regimental Surgeons, Occulist, Herneutomists, Bath-keepers; class c, Superior sworn midwives, nurses; class d, Apothecaries, Druggists, Confectioners, Grocers. Division II: Sundry Impostors and pretended Physicians, Old Women, Village Priests, Hermits, Quacks, Jews, Vagrants, Musicians, Rat-catchers, Jugglers, Gypsies. The process of elimination was slow. Thanks to our efficient State and subordinate Boards of Health, backed by the good doctors of Kentucky, Medicine with us means Medicine and Surgery. As late as the 16th century, Surgery was relegated to the lower class of practitioners. It is quite different now. Anesthesia and cleanliness gave to Surgery a more pleasant picture of progress. Its objects and practice necessitate less illumination of dark paths by the torch of theory, which often diffuses more soot than light. It was called the seeing portion of the Healing Art.

"Storms are remembered when the voyage is over,

But not the breezes that wafted us ashore."

If I had been giving this address at the beginning of this century I might have complained that the Surgeon coming into his own with leaps and bounds,

"A belated traveler from Altruria,"

had used this frailty of the public mind to his advantage as against the Physician. Indeed it seemed that in our own ranks, for a time, none but great surgeons were held worthy of high honors. Modern invention and more recent research have made Medicine also a seeing portion of the Healing Art. The Physician has regained his prestige. This is a decade of medicine. This is the high tide in medicine. The Physician was never more esteemed than now. With vaccines and opsonic index, and X-rays, and mosquitoes in cages, and petroleum for amebic dysentery,

and microscope and electricity, and photography and preventive medicine and medical organization, and hospitals on every hill-top, and sane feeding and drugs, Medicine offers to the world the best it has ever experienced.

PREVENTIVE MEDICINE.

Last year our orator chose for his theme, "Prophylaxis in Medicine." It was a timely subject. At the St. Louis meeting last June the most prominent section was that of Preventive Medicine. A national conference on Industrial Diseases was held at Chicago this year. The actuary of a large Insurance Company stated to this meeting that in many trades one-third of deaths is due to one specific disease. Also that the money loss in one year in the United States, due to preventable occupational disease, is nearly a billion dollars. Another statement to this conference was that the money loss in the United States annually, due to sickness cost, loss of wages, and economic loss in industry, is easily a billion and a quarter dollars. Senate document 419 of this year states that at all times in the United States about 3,000,000 persons are seriously ill, and that half of this illness is preventable. Appraising each life lost at \$1700.00, and each year's average earnings at \$700.00, the economic gain possible annually from preventing disease could exceed a billion and a half. The real waste can only be expressed in terms of human misery. "It is in the power of man to rid himself of every parasitic disease." Fifteen years at least could be added at once to the average of human lifetime by applying the science of Preventive Disease. More than half of this additional life would come from the prevention of tuberculosis. Typhoid fever and five other diseases, the prevention of which could be accomplished by purer air, purer water and purer milk. These statements are the highest authority.

With an expenditure of \$3,000,000.00 and an organized Department of Health the State of Pennsylvania has, in four years, shown a positive saving to the Commonwealth of \$23,000,000 in human life values. During this time the mortality from typhoid fever alone was cut to less than one-half. There was a net saving of about 14,000 lives. Kentucky might profitably invest more money in this way. Our powers of investigation, administration and disseminating information can be adequately enlarged *only* by sufficient available funds, and this duty lies at the door of State. Preventive Medicine is the watchword of the hour, and enlistment in the cause can come only through education. There are two important factors in public health work. One is the gaining of new

knowledge through scientific research; the other is the diffusion of this knowledge through education. The two go hand in hand. Funds, money, is the lubricator of this beneficent machinery. State appropriation is the solution of the whole matter.

TUBERCULOSIS.

A brief review of this subject can but impress us that

"Man's inhumanity to man
Makes countless millions mourn."

Five points for practical application are deduced from the report of Gaylord Farm Sanitorium:

(1) The early diagnosis of Pulmonary Tuberculosis.

(2) Treatment in nearby Sanitoria when possible.

(3) A sensible diet and no forced feeding.

(4) The stay at the Sanitorium should be long enough to arrest the disease thoroughly.

(5) Unless some particular unfavorable condition should prevent, the patient should be returned to the occupation to which he is used.

Early diagnosis has been well discussed.

The second point for practical application, as recommended in the Gaylord Farm report, supports the resolution adopted by this Society last year at its Louisville meeting, as reported by the Anti-Tuberculosis Campaign Committee, of which your essayist had the honor to be Chairman. It reads:

"Your committee this week visited the Infirmary of Louisville Anti-Tuberculosis Association. We recommend that such an Institution be established in every county in Kentucky." Within the past five years the Department of Health of Pennsylvania has established 114 Tuberculosis dispensaries. The dispensaries are each in charge of a professional nurse who attends the dispensary and also visits and instructs in the home. Thus far more than 130,000 such visits have been made by them. Kentucky has, in a number of cities, such dispensary service with their good work in an educational and philanthropic way. This idea is correct. But let no one for a moment imagine that it is a solution to the problem of Tuberculosis. It has been amply demonstrated that a large proportion of patients in the incipient stage, through proper methods of living and supervision, may secure an eventual arrest of the infection. The plan of sending these patients from home for treatment has been tried out and found wanting. WE ARE SICK OF SEPARATIONS WHEN THE HEART MOST NEEDS THOSE WHO LOVE. At

this opportune moment comes the advice, "Treat them at nearby sanitoria and return them to their accustomed stations in life. PREVENTION, MANAGEMENT AND TREATMENT ARE THE INDIVIDUAL AND SOCIAL REQUIREMENTS OF THE SUBJECT. Institutional prevention and treatment are demonstrated successes. Institutional Therapeutics offer the best that is known on this subject to-day.

The County—nearby—Sanitorium would MEET THESE INDICATIONS.

ALCOHOL.

It seems timely that we should emphasize our present knowledge of alcohol as to *heridity, predisposition to disease and loss of brain power*. A recent cartoonist pictured a quartet of liquor men in glee, contemplating the temperance speakers and saying to themselves: "Let them talk; if they should stop talking they might think—then where would we be?" If drinking men who are becoming fathers should stop and think, surely they would leave off alcoholic beverages. Men who are authorities on this subject state that the disturbances of the brain by alcohol leaves an indelible impression, and that these defects are transmitted from parent to children, and that brain degeneracy exists in every child born of alcohol-using parents. In the second generation the degeneracy becomes more manifest, while as a rule it remains for the third and fourth generations to reap the full results of alcoholism. Parental intoxication tends to produce impulsive degenerates and moral imbeciles. It may not be recognized immediately, although in infancy it may show itself in convulsions, meningitis and other forms of nervous debility. Some children show signs of mental deficiency and lack of moral control, while others exhibit idiocy, epilepsy and hysteria. In a reformatory school in Berlin hereditary taint due to parental alcoholism is shown in 67 per cent of all pupils. Of 55,000 school children examined in New York City, 58 per cent were below the required standard, and 17 per cent were actual dullards, bordering on idiocy. The family history of 3,711 of these children was traced through three generations. Of the children of abstaining parents and grandparents only 4 per cent were dullards, whereas of children of drinking parents or grandparents 78 per cent were dullards or feeble-minded. Are fathers willing to deliberately continue to bring this curse upon their offspring? A great economic loss is the individual mental discount caused by alcohol. Psychological tests show a discount of 25 to 40

per cent. in mental power of those who use alcohol, even moderately. Sometimes the power of memory is discounted to 70 per cent. A young man starts in life with every equipment for a successful career. He takes to drink and becomes one of the ordinary or even not so much. This is the history of thousands and is a great loss to the State. We have long known that alcoholics are bad patients to treat, and that their "come-back" is disappointing. More recently we have learned something of "why this is so." We have learned also that they are more susceptible to disease. Alcohol lowers the opsonic-index. So great is the predisposition of alcoholics to consumption that those engaged in the crusade against tuberculosis are minded to turn to total abstinence as a part of their armament.

LITERATURE.

Literature is the immortality of speech. In science we read by preference the newest works; in literature the oldest. We have a medical literature which is at once Science and Art. We must read the newest medical works; we should also read the old. We must then be able to read that science whose material is ever near us in living books of the sick and the dead, and reading from these books, recognize the fundamental truth that the basis of all knowledge is the accurate observation of actual phenomena, and that the correct generalization of these phenomena should be the sole foundation of human reasoning. The father of medicine wrote: "The Physician must know what his predecessors have known if he does not wish to deceive himself and others." Centuries ago it was written: "Let us halt when we have arrived at the limits of the most thorough observation, and let us not strive to press forward where experiences cannot show us the way." A little later it was written: "In vain do we demand that the detail be more generalized and reduced to order. We want ideas and we get more facts. We hear constantly of what nature is doing, but we scarcely hear of what man is thinking. We are in the predicament that our facts have outstripped our knowledge and are encumbering its march." We have been slow to learn that old, old maxim, "The Physician should benefit, or at least not injure."

We accept Hydro-Therapy as up-to-date medicine, and forget that Musa cured the Emperor Augustus by means of cold water after warm baths had failed to produce any benefit; and forget that Herodotus, Celsus, Aretaeus, Aetius and others likewise employed cold water, most frequently in the form

of affusions. Forget that Galen and Hypocrates employed lavations in fevers of young people, forget that among the Arabians Rhazes recommended cold lavation and dipping in certain forms of disease. That Avicenna followed Galen and regulated his employment of cold in accordance with age, constitution and season of the year. That even the American Indians practiced Hydro-Therapy in yellow fever. There are many other old-new things in medicine. We shall do well to read more of the classics in medical literature rather than commit them to the garret or sell them as junk. They contain "gems of purest rays serene." Mixed as they are with superstition, magic and Astrology, they will enable us to know what "is old and what is new in medicine," and what virtue there is in each.

The anomaly, the monstrosity in medicine, is the doctor who does not earnestly and continuously read the newest in medicine. We shall not offend him; he is not here to-day. He will not hear of this. What we say will not get into his kind of medical journals—those filled with advertisements of Peruna, quick cures, &c., and which come to him "without money and without price." He is not a member of the county society; he does not write papers or read the State Journal. *The Journal of the American Medical Association*, which represents the best there is in medicine, is an unknown quantity to him.

Besides records have always been the most reliable source of medical knowledge. Every general practitioner of medicine knows that his results in treating typhoid fever, pneumonia and other of the common foes of humanity, are better than hospital reports on these subjects. Modern invention has systematized these records and made them dependable. Therefore as they come up through the county society and the State society, and State JOURNAL, they constitute our stock in trade. Systematic case record for a series of years will make a No 1 doctor of every man who practices it. The illustrations and colored plates which we once thought perfection are being excelled by photographers. "The Stereopticon Clinics" of Howard A. Kelly is a wonder. What shall we expect of moving pictures? We are approaching an age when the products of our leading thinkers and workers will be presented in practical form and produced at pleasure by others or by a subsequent generation.

We have a wonderful current literature. The indexing, which at once brings in panorama the whole field of medicine, is almost beyond comprehension. The reviews with abstracts, which are given regularly, and our journals, give us the cream. Our quarterlies

and annuals give us more comprehensive ready information, and finally book on special subjects give us in substantial form addition to our libraries. These are not luxuries, they are essentials. They are within the financial reach of every doctor. They yield results on investment greater than any money we spend. Twenty-five dollars (\$25.00) for journals and the same amount for medical books annually will soon secure a working library. Double that amount each year is not too much, yet it is more than will be evidenced by 99% of doctors. The State Journal represents the thought and practice of the rank and file—the working force of the profession. Channing wrote "Science and art may invent splendid modes of illuminating the apartments of the opulent; but these are all poor and worthless compared with the light which the sun pours freely, impartially, over the hill and valley, which kindles daily the Eastern and Western sky; and so the common lights of reason and conscience and love are of more worth and dignity than the rare endowments which give celebrity to a few." Our National Journals and National men serve a place and purpose, all important. The County Society, and papers produced by it, and the State Society and State Journal, constitute the best material and the greatest asset of the medical profession.

This year has been wonderfully prolific in advances in many departments of Medicines. The Annual and State addresses in Medicine are full of these achievements. It is not necessary to review them here.

SUMMARY.—We have presented the physician of to-day; the kind of man he is and what he stands for. We have spoken of medicine proper, freed from all appendages and schisms; also its relation to surgery. In brief we have discussed Preventive Medicine, Tuberculosis, Alcohol, and Medical Literature. Our own thoughts are relieved by a liberal use of borrowed material. I indulge the hope that you find herein something *worth while*, "SOMETHING OLD AND SOMETHING NEW."

Anemia with Enlargement of the Spleen.—Pende presents clinical data to sustain his view that there is no special affection that can be called splenic anemia; there may be a primary splenomegaly. The anemia may be of the Banti, the Biermer periodical or pernicious progressive type, or of the leucoanemia type, or the Cardarelli type of infantile splenic anemia, while the spleen may present varying lesions with each of these types. The character of the anemia and of the splenomegaly may differ in each individual case.

A CASE OF PELLAGRA.

By J. A. VAN ARSDALL, NICHOLASVILLE.

Mrs. C. White, age 30, married, born in Germany, parents moved to America when she was 1 year old and located in Wisconsin, where she lived until her marriage in 1902. Since her marriage she has lived one year in Alabama and one year in Tennessee. The remainder of her life was spent in Wilmington, O., until September, 1909, when she moved to Nicholasville. Father living and in good health at 56. Mother died of tuberculosis; brothers and sisters living and in good health. One uncle died in an insane asylum. She is the mother of one child, aged 3 years. Her illness dates from the birth of the child. Weight had decreased from 160 to 120 pounds; had suffered during these three years with leucorrhea, pains in abdomen in the region of the uterus and ovaries. Had been treated at Wilmington, O., for ulceration of cervix, during these years she had suffered with diarrhoea alternately with constipation. She came to my office October 30, 1909, suffering with pains in the back and each side, radiating to the front and lower quadrant of the abdomen. She walked in a stooping posture and with epestic gait. She was markedly jaundiced, complained of vertigo and inability to see, and dark objects floating before her eyes. She had a vacant, imbecilic expression, and only by repeated questioning could an answer be elicited; memory of dates and events almost obliterated. She had recently suffered with diarrhoea, but bowels at this time were constipated. She had leucorrhea, with left lateral displacement of uterus, slight dullness over liver. Temperature normal, pulse 85, tongue coated with moist, light coating, dark oreola beneath the eyes, muddy complexion. She had the Argyle-Robertson pupil, deep reflexes all exaggerated. The eruption extended from the junction of the second and third phalanges posteriorly to an inch or two above the wrist joint and around the arm at wrist. This eruption was the same on both hands.

The eruption was erythematous, skin very thick and dry, with a tendency to crack open, as we see in severe case of chapped hands. This eruption gave her no inconvenience, had existed for more than one year, yielded readily to treatment with oxide of zinc ointment, with dessication and exfoliation of the epidemis, but returned soon. I gave alternative and reconstructive treatment, saw her at my office again in ten days with seemingly some improvement in her condition. I saw her at her home November 15. She was in a state of great unrest, had slept none for two nights previous, was refusing all medicines and nourishment, felt a sense of impending death. She was suspicious of friends and attending physician. Severe stomatitis, marked ptyalism, saliva dribbling from her mouth, tongue

red, gums pale, pupils acting to light feebly, pulse 100, temperature 99 3-5. November 16, condition unchanged. She was admitted to the Good Samaritan Hospital, at Lexington, Ky. Drs. Clark, Bradley and others confirmed diagnosis of pellagra. Blood count showed anaemia, but not very marked. Her condition was practically unchanged and she died November 23, 1910, from exhaustion.

COUNTY SOCIETY REPORT

Anderson.—The society has had no meeting this year. The profession in the county are hard to get to co-operate in matters of any kind. I hope to organize completely next year, and have some meetings.

JOHN W. GILBERT, Secretary.

Pendleton.—The Pendleton County Medical Society met at Butler, the guests of the physicians of Butler and vicinity. The meeting was called to order by Vice-President S. M. Hopkins in the absence of President Nichols. After roll-call, and a reading of the minutes of the preceding meeting, we proceeded to the business of the day. The following members were present:—W. H. Yelton, John E. Wilson, J. Ed Wilson, Clark McKinney Kendall Ellis, Brown, Caldwell, Blackerby, Hopkins, Beckett, Northcutt, Daugherty; Poe, and Rauley, visiting—sixteen in all. After a few reports of clinical cases we took up subjects and their discussion.

N. H. Ellis discussed "Hygiene of Infancy," which was very thorough, and was well received.

J. F. Daugherty: Subject, "Prevention and Treatment of the Toxemias of Pregnancy."

N. A. Jett was to discuss the subject, but not being present, the subject was discussed by nearly all members present, and some very valuable points brought out.

W. H. Yelton: Subject, "Criminal Abortion." The Doctor read a short and concise paper, which was well received. This subject brought out a great deal of discussion. Owing to the great publicity given to the subject, by the new law, it is a subject that ought to be discussed by every medical society in the State, because the conditions that exist are appalling. I think a great deal of good will be done by this new law. This closed the papers and their discussion for this day. We then adjourned, after having spent one of the most enjoyable and profitable meetings of the society that it has been my pleasure to attend.

W. A. McKENNEY, Secretary.

Franklin.—Franklin County Medical Society met in the office of Drs. Williams & Mastin. No regular program. Only routine business quickly disposed of, the entire evening being

devoted to reception of U. V. Williams, it being the completion of the 56th year of his services in the practice of medicine, continuously, and the 77th anniversary of his birth. Present, about thirty physicians of the city and county, and other friends, including a number of ladies, "God bless 'em." A lunch was served, with other and liquid refreshments. E. E. Steerne was chosen as toastmaster, and impromptu speeches offered by each one present, after which it was ordered that Joe Barr, J. W. Hill, and Flora W. Mastin were named a committee to prepare a synopsis of proceedings for publication and to be spread upon the records of the society and to be published in the local papers of Frankfort, and the Kentucky State Journal.

(Frankfort State Journal.)

"CELEBRATE BIRTH

"Physicians Of County Make Merry On 77th Anniversary of Dr. U. V. Williams.

"Disposing hastily of routine business at the regular meeting of the Franklin County Medical Society, the thirty physicians present enjoyed a great hour in an informal reception at the office of Dr. U. V. Williams yesterday afternoon, the occasion being the celebration of his seventy-seventh birthday. The physicians, through several of their number made all sorts of congratulatory speeches and wished the young seventy-seven year-old doctor many more happy and healthy birthdays. An enjoyable lunch was served to Dr. Williams' guests.

"Throughout yesterday, the Doctor was congratulated upon reaching this high age mark and still retaining all the vigor and health of a much younger man. Messages from different parts of the State and from other States were received by the doctor. He says he is as young as ever and that his age has not caused him to curtail any of his practice and the day when he will retire has not been thought of."

(Frankfort News.)

"DR. WILLIAMS HAS BIRTHDAY.

"Celebrates 77th Anniversary of Birth. Doctors Meet With Him.

"The birthday of Dr. U. V. Williams and the regular meeting of the Franklin County Medical Society came on the same day this year, Monday, Nov. 7th, and Dr. Williams held an informal reception at his office at 3 o'clock, when the society convened.

"Dr. Williams says he is 77 years old and don't care who knows it, and his friends know that he is 77 years young and still hale and hearty enough to keep up with a large medical practice that takes him to all parts of the coun-

ty in all sorts of weather. He has been practicing for over fifty years, but he still gets around as lively as some of those who have not practiced half that long. He was the recipient of dozens of birthday remembrance cards from many other States and from many other points in Kentucky, and was congratulated by all the Frankfort physicians Monday afternoon, upon his long and successful career. The reception, though informal was a most pleasant little affair and greatly enjoyed by those fortunate enough to be present."

After which adjournment was taken to December 5; same place, at which time election of officers will be held.

U. V. WILLIAMS, Secretary.

Scott.—The regular meeting of the Scott County Medical Society was called to order by the president. Those being present were Drs. Porter, Coons, Heath, Forman, Allphine, Barlow, Crutchfield, Johnson, and Hartman. Minutes of the previous meeting were read and adopted.

W. P. Forman presented an excellent paper upon "Cholera Infantum," which was heartily discussed by all.

R. W. Porter, in lieu of a paper, opened for discussion "Incipient Tuberculosis," and it was unanimously agreed by all that education would be the key-note toward the elimination of this dread disease.

E. C. BARLOW, Secretary.

Marshall.—The Marshall County Medical Society met in Benton in the office of Stilley & Jones with the following present:—W. T. Little, C. E. Clayton, R. M. Jones, H. I. Hughes, V. A. Stilley, A. J. Bean, E. G. Thomas, E. D. Covington. The subject of this meeting was Broncho-Pneumonia, by F. M. Travis.

F. M. Travis read an excellent paper on the subject, bringing out all the old-time remedies, together with the newer preparations for treatment. The subject was well discussed by all present.

V. A. Stilley reported a case of psoas abscess in an old man 67 years of age. Abscess of four months' duration and tubercular.

H. I. Hughes and **C. E. Clayton** reported a case of intricate labor and peculiar amniotic fluid.

This was a good meeting and very instructive and well enjoyed by all present.

The society adjourned to meet October 12, 1910.

A. J. BEAN, Secretary.

Daviess.—The Daviess County Medical Society met in regular quarterly session on September 20; thirty-two members were present. O. W. Edge, of Whitesville, was admitted to membership. Two applications were received.

R. N. Filistean read a very interesting paper on "Early Symptoms, Etiology and Diagnosis of Tuberculosis."

J. E. Payne read a paper on "Typhoid Fever." These papers are enclosed for the Journal.

J. J. RODMAN, Secretary.

BOUQUETS FOR THE LIVING.

To the Editor.

On the evening of Oct. 5, 1910, about twenty of the physicians of Paducah gathered together, according to previous arrangement, around a well-laden banquet table, to do honor to one of their number, Dr. John G. Brooks, who had on that day arrived at the seventieth mile-post on his journey of life. The affair was so well arranged that Dr. Brooks had not the slightest intimation of it until he was ushered into the banquet hall, and found his closest professional friends assembled to do him honor. D. G. Murrell acted as toastmaster and under the inspiration of the occasion many of the speakers expressed, in language eloquent and sincere, the love and esteem which is universally accorded Dr. Brooks in this city. Dr. Brooks was so completely overcome with the manifestation of sincere regard and confidence of his professional friends that it brought from him the tenderest expressions of his well-stored mind and grateful heart.

Dr. Brooks was president of the Kentucky State Medical Society in 1887-88. He was at one time, in his early medical career, physician to Queen Liliuokalani of Honolulu. Dr. Brooks was for many years the leading surgeon of this city, and did much original work and is yet active in the profession and medical organization. He prefers to "wear out rather than rust out."

J. T. REDDICK.

Carlisle.—The Carlisle County Medical Society met in regular quarterly session at Cunningham in the Odd Fellows' Hall, September 6th, 1910, at 10 o'clock A. M., Vice-President T. J. Marshall in the chair. After the usual preliminaries, the scientific program was taken up.

H. T. Crouch's paper, entitled "The Proper Way to Examine Children in Making Diagnosis" was freely discussed by all.

The society then adjourned to partake of the splendid dinner which had been prepared for the occasion by Drs. Shelbourne and Burrow.

Reconvened at 1:30 P. M.

R. T. Hocker read a very scientific paper entitled "Is Teething the Cause of Diarrhoea in Children?" This was a very interesting paper, and the interest was increased from the fact that a number of the laity was present who seemed to enjoy the liberal discussion which followed its reading.

W. L. Mosby came next with a well prepared

paper on the subject of "Adenoids in Children, Etiology, Pathology and Treatment." The essayist emphasized the importance of the early and skillful treatment of Adenoids, and pointed out the sad and direful results so often seen in neglected cases. The paper brought out quite a lively discussion, the principal point of contention being, whether the general practitioner should operate for Adenoids, or his cases be referred to a specialist. Some members contended that the operation was simple and unattended by any serious results, and that the extra cost of sending patients to specialists, was the principal cause of the neglected cases and the resulting sequelae.

W. Z. Jackson reported a chronic case of two years' standing of inflammation of stomach complicated with abscess opening in region of esophageal portion. Stomach tube would not pass into stomach. Frequent examination of ejected matter from stomach showed streptococci. Patient a young lady is very much emaciated, and objects to an operation.

G. W. Payne reported a case, a child three years old, who some five weeks ago developed a fever of a remittent type which would not yield to quinine. About the end of second week with evening temperature of 104 the child had convulsions, became unconscious and remained so for ten days. Temperature gradually declined to normal. After convulsions one arm and the opposite leg was noticed to be paralyzed, as consciousness slowly returned Athetosis developed. Diagnosis of Tubercular Meningitis was entertained, but as the child was rapidly improving this diagnosis was rejected.

C. D. Shelbourne presented a case—a man fifty years old for last two years has a sub-acute Cellulitis, involving calf of right leg; patient thought this was caused by a very irritable corn on little toe. The treatment at present is inunctions of mercurial ointment.

The society then adjourned to meet December 6, at Bardwell.

H. T. CROUCH, Secretary.

Hart.—The Hart County Medical Society met in the parlors of the Walton House, Munfordsville, Ky., Sept. 6, 1910, with the following present:—W. F. Nichols, president; D. C. Donon, Jr., secretary pro tem.; L. E. Comstock, A. D. Willmoth, P. Hardin, J. A. Lee, J. H. Hester.

The minutes for May 4, and July 5, were read and adopted. D. C. Donan, Jr., was elected secretary to fill the vacancy caused by the resignation of C. K. Beck.

A. D. Willmoth, of Louisville, was first on program, subject, "Post-Operative Treatment." Discussed by all present. A vote of thanks was extended Dr. Willmoth for his excellent paper. On account of lack of time Dr. Hester's paper on the "Diagnosis and Prophylaxis of Typhoid Fever" was postponed till the October meeting

Several interesting cases were reported, after which the society adjourned.

D. C. DONAN, JR., Secretary.

Nelson.—The Nelson County Medical Society met Sept. 7, 1910 in the office of the secretary. In the absence of the president, R. H. Greenwell was elected president pro tem. Those present were: B. E. Gore, R. H. Greenwell, H. E. McKay, Guy Grigsby, J. B. Overall, S. B. Crume, Hugh D. Rodman, of Nelson County, and A. David Willmoth and Isaac T. Houck, of Louisville. The reading of minutes and other preliminaries were dispensed with and the scientific work was at once taken up.

A. David Willmoth read one of the most instructive and most thorough and beneficial papers ever read to our society on "Diagnosis and Treatment of Tubercular Lesions of the Spine." At the conclusion of which all adjourned to Losson's Restaurant where a good dinner was served at the expense of the Bardstown doctors who were present.

Afternoon Session:—A good discussion of Dr. Willmoth's paper was had.

Isaac T. Houck, of Louisville, read a very excellent and instructive paper on "Leucorhea," which was well received by the members and discussed by several of those present. The secretary here reported that our active and efficient young member, W. Lucien Heizer, of New Haven, would soon remove from our county to Bowling Green to take charge of the Bureau of Vital Statistics, which office was created by the last Legislature, and on motion a committee was appointed to express the feelings of the society at the loss of Dr. Heizer. Said committee reported as follows:

Bardstown, Sept. 7, 1910.—At a meeting of the Nelson County Medical Society held to-day the following was unanimously adopted, to-wit:

Whereas, It has come to our knowledge, that our distinguished young member and earnest and efficient co-worker in medicine, Dr. W. Lucian Heizer, of New Haven, Ky., has accepted the position as head of the State Bureau of Vital Statistics, which will require his removal from our midst, therefore be it

Resolved, That we sincerely regret to lose from our county and from our County Medical Society such an active and efficient member. We congratulate the Commonwealth on procuring the services of such an able man to fill such an important position, and we, as a society, congratulate Dr. Heizer on his appointment.

(Signed)

HUGH D. RODMAN,

H. E. MCKAY,

J. B. OVERALL,

Committee.

This was unanimously adopted.

Adjourned to meet in December.

HUGH D. RODMAN, Secretary.

Mercer.—The Mercer County Medical Society was called to order by C. B. VanArsdall, who was unanimously chosen temporary chairman, in the absence of both the president and vice-president, Meredith, Witherspoon, Seay, VanArsdall, A. D., and J. Tom Price, C. W. Sweeney, W. A. Carrier, Green L. Johnson, of Wildwood, Fla., were present. The minutes of the July meeting were read and approved. There was no meeting of the society in August on account of the county fair then in progress.

T. O. Meredith read a paper on "Chronic Gastritis." Discussion:—

A. D. Price: Gentlemen; wish I had something I could say on this multitudinous subject. We sometimes have an ideopathic gastritis in which the cause is difficult to ascertain. Often the general practitioner can do as much good in these cases as the specialists.

C. W. Sweeney: It seems to me Dr. Meredith has covered the ground pretty thoroughly. Rest and cleanliness is the chief thing after we determine the cause.

W. H. Witherspoon: I simply wish to thank Dr. Meredith for the paper. I didn't know there was as much to be said as he has written.

W. A. Carrier: There is often constipation in gastritis. Relief from this will frequently cure the trouble. The Doctor has completely covered the subject.

C. B. VanArsdall: We want to thank the Doctor for the thorough paper. If all our essayists would give as much time and thorough study in the preparation of their papers we would be greatly benefited.

T. O. Meredith in closing: I feel under obligations to the profession. I have consulted Doctors at various points in the United States. My friend, Dr. A. D. Price suggested that bismuth and soda be taken in large doses. One - half teaspoonful each gave me relief.

C. W. Kavanaugh, of Lawrenceburg, suggested silver nitrate, potash, etc., to be taken before eating. I did so, got better, and have had no trouble in the last few months. I thank you very much, gentlemen, for the discussion.

A. D. Price reported a clinical case as follows:

A child three or four years old. Morning temperature 102 degrees, evening temperature 104 degrees; typical typhoid curve, tympany, slight discharge from bowels continuing three or four weeks. At the end of the third week the temperature suddenly fell to 97 degrees and gradually rose to 99 degrees. All at once the child ceased to speak, had to prize the mouth open to feed her. This is unusual in my experience. Wish you gentlemen would give your experience with this nervous trouble in typhoid. No experiences given or discussion followed. W. A. Carrier paid Four \$4.00 Dollars State and county dues for 1910. C. W. Sweeney was appointed

essayist for the October meeting. No subject assigned. The society adjourned.

J. TOM PRICE, Secretary.

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth, Wednesday, Sept. 14, 1910, with the following members present:—Barbour, W. H. Yelton, John E. Wilson, J. Ed Wilson, Clark, McKenney, Wooley, Brown, Hopkins, Daugherty, Nichols, Kendall, Caldwell, Blackerby, Ellis—15 in all. The meeting was called to order by President Nichols, and after the usual preliminaries, we proceeded to the business of the day.

H. E. Clark made a motion as follows: That in the future all ministers of the Gospel are entitled to the same sort of treatment, in regard to paying their bills for medical services, as any other business or professional men in the community. Motion carried.

W. H. Yelton called the attention of the society to the fact that in some sections of the county, that midwives who are not licensed are still practicing their profession. On motion of H. C. Clark, that the referee of Pendleton County, inform these persons that they must register or cease practicing. Motion carried.

J. F. Daugherty reported the following clinical case: I was called to wait upon a woman in labor. The child was born after the usual time. After the child was dressed, and before I left the house, the child commenced to vomit. I told them to let me know on the following day how the child was, and they informed me that it was still vomiting, and I saw it on the 2d day. I used the syringe and washed out some mucous from the bowel, but did not relieve the condition. I diagnosed some obstruction to the bowel. The child lived seven days.

We then took up the reading of papers, and their discussion. First paper, "Cholera Infantum," by C. H. Kindall; discussed by P. N. Blackerby. Second paper, "Morasmus," K. B. Wooley, essayist; discussed by W. A. McKenney.

J. Ed Wilson read a paper on "Paranoia" which was very interesting and instructive; on a subject that the average practitioner knows too little about, and one we all ought to study more. Paper discussed by S. M. Hopkins.

The next subject, "Melancholia," by J. A. Caldwell. The Doctor not being prepared, H. C. Clark, who was on the program to discuss the subject, gave us a very interesting talk on the subject of "Melancholia." This closed the papers and their discussion. This was one of the best meetings of the year in point of attendance and enthusiasm. Our physicians certainly realize what a benefit our county medical society is to them, and we are beginning to realize what a grand work the organized profession of our State can do.

W. A. McKINNEY, Secretary.

JEFFERSON COUNTY NUMBER

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ORIGINAL ARTICLES

GOITER.—INDICATIONS FOR OPERATION AND RESULTS.

By JNO. R. WATHEN, LOUISVILLE.

At the present time there is scarcely a subject in medical and surgical literature which is attracting as much attention as that of goiter. Not that operations upon the thyroid gland were not done in the past, for in certain parts of Europe large cystic and adenomatous goiters were removed quite often; but it was only when we began to study the gland when seen in the exophthalmic type, that the pathology and the physiology of the thyroid was properly appreciated.

The term goiter should be limited to those cases where a permanent tumor has existed for some time and it should be distinguished from those temporary enlargements of the thyroid gland which occur so frequently in young girls at puberty; also the physiological enlargements during pregnancy and in prolonged fevers as typhoid and scarlet fevers.

Any enlargement of the thyroid gland usually produces an accelerated pulse rate, some nervous symptoms, and the neck fullness causes a sensation of choking or smothering. It is especially in the exophthalmic type of goiter that the pulse remains greatly accelerated for a long time and the other symptoms are most prominent.

The varied enlargements of the thyroid

gland, which we have called goiters, have been classified by the different authorities in many ways, due largely to our comparative ignorance of the exact physiology and pathology of this gland.

The diagnosis of the cystic types is comparatively easy, as they are usually round, protruding, massive, and generally freely movable. They resemble ovarian cysts in their appearance, pathology and treatment. Some attain a very large size, but aside from the disfigurement produced, and the pressure on neighboring structures, as the trachea, are not of any especial danger. Of course malignant degeneration is very liable to occur in these as in any other tumor of long standing, and their early removal should be insisted upon as it is comparatively easy and the results are good.

The large adenomatous goiters, often seen in Europe, are not of frequent occurrence in this country, as are also the fibrous and calcareous varieties. Cancerous goiters are seldom met with and can usually be diagnosed, if far advanced, by their fixation to the surrounding structures and their stony hardness, cachexia, etc. Crile has said the "all of these (cancerous goiters) died, either as operative deaths or as recurrences." * * * * "My personal experience and the reports from the principal clinics lead me to conclude that cancer of the thyroid is at present rarely, if ever diagnosed in its curable stage, and the occasional cure is accidental."

The most dangerous type of goiter and the kind most often found in this country, is the exophthalmic variety. These are easy to diagnose in the late stages after all the typical symptoms have developed, and much irreparable damage has been done, but to make an

early diagnosis is sometimes extremely difficult.

It is not the purpose of this paper to review the immense amount of literature upon this subject, as those composing this society are all too familiar with such matter, but it is my pleasure to present to you conclusions based largely on my own personal experience.

In regard to the indications for operation

administering iodine locally and internally, electricity, etc., all of which have been proven to be of no specific value.

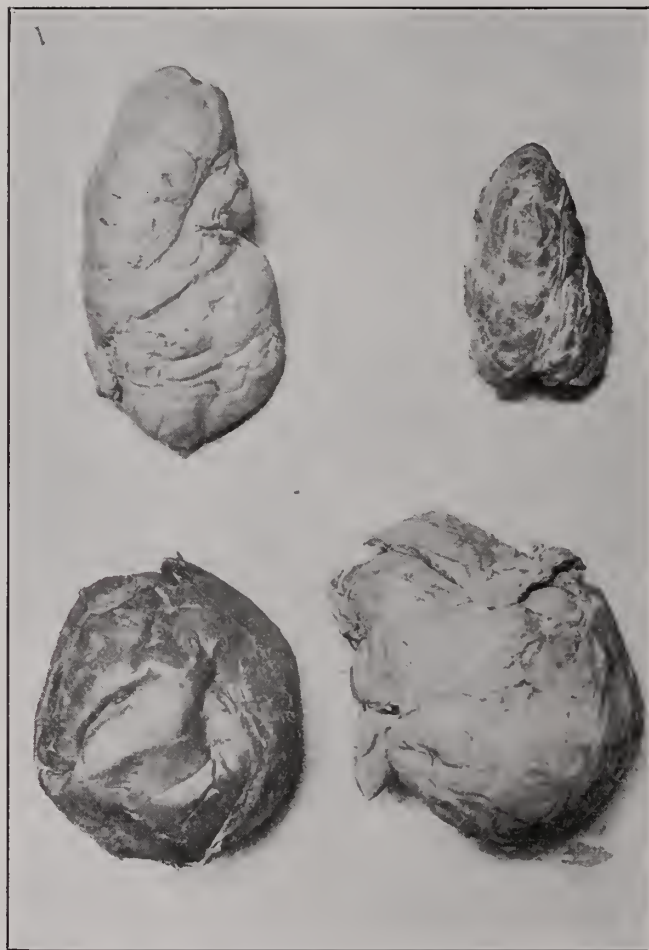
True that these cases have shown signs of improvement under such treatment, but this has been proven to occur independent of any treatment whatsoever; in fact, they often do best if kept quiet and given no medicine at all.

The only real therapeutic measures of any pronounced value, aside from the operative removal of the gland, seem to be some good heart tonic as tincture of *stophanthus* and such physiological methods as hydrotherapy and the rest treatment in properly conducted sanitariums. Based upon a comparatively large experience, I should say that if we delay operation for several years, administering iodine and electricity until the heart muscle has undergone degeneration, albumen is in the urine, enlargement and fatty degeneration of the liver, lowered blood pressure, etc., we have waited too long to attempt any radical operative measures and these patients will generally die.

The proper time to advise operation with an expectancy of a low mortality and good results, is after this thyroid enlargement has begun to manifest the early symptoms of exophthalmic goiter, and has existed for several months or years, with little or no signs of improvement. Avoid the young girls developing into puberty, as these will usually recover without treatment.

In the selection of our patients for operation, we should realize that early operation, before complications have arisen, as in appendicitis, gall stones, etc., offers the best results. Those cases whose pulse is not over 120 to 130, and which under careful preparatory treatment, can be reduced to 100 or below, and whose arterial tension is not far from normal, will usually stand the operation well

and give good results. It is that class of cases where no preliminary treatment seems to be able to make such temporary reduction; which seems to be especially dangerous. I have carefully studied my operated cases, and I have noted that all patients in whom I was not able to reduce the pulse in preparatory treatment to below 110, had died, and I lost no patient in whom we were able to reduce the pulse to below this figure—this observation, irrespective of the original condi-



TYPES OF GOITERS.

Adenomatous Goiter,
Cystic Goiter.

Exophthalmic Goiter
Fibro-calcareous Goiter.

it is only in those patients whose goiters remain for several years, whose general health fails, whose pulse runs from 100 to 140 or more; patients who have disturbances of digestion of long standing, whose eyes begin to show enlargement or protruding, and whose nervous system shows in muscular tremors, that we should advise an operation early enough to avoid the late destructive changes seen in neglected cases; cases where the family doctor has for years been admin-

tion of the pulse when the patient entered the hospital. In other words, a patient entering the hospital with a pulse of 180, and reduced before operation to below 110, always recovered, and one entering the hospital with a pulse of only 120 to 130, and not reduced to below 110, always died. Those with intermittent pulse are the most dangerous, irrespective of the pulse rate.

Blood examinations, as so strongly advocated by the Koehers, have not given much satisfaction, or aided in determining the prognosis in many cases.

The Koehers have observed that there has been a marked increase of lymphocytes and a diminution of polymorpho-nuclears. The leucocyte count itself was normal, the increase of lymphocytes being in proportion to the degree of the disease. Nothing was as yet known as the cause of the lymphocytosis. It was different from that which accompanied pus formation. It explained the danger of the very slightest infection in these cases.

The surgical treatment has proven itself the most satisfactory, as it removes the organ producing the toxæmia and breaks the pathological link in the chain of the disease.

While we all realize that some—indeed a very small percentage of—true cases of Graves disease will recover with or without any kind of treatment whatsoever, we still are forced to acknowledge that the only sure and permanent cures must result from the removal of the poisoning gland.

The removal of this gland in late cases is useless, as the real damage has been done to the other organs and it is too late to expect much repair. Likewise the supposed cures by medicines occur only after the thyroid has exhausted itself of its poison and damaged to its limit the heart, liver, etc.

In making a careful analysis of the results of my operations upon the thyroid gland I cannot help quoting from a recent paper by Crile in which he says:

"I have seen no case that was not benefited by operation. The majority regard themselves as cured. Taken before organic changes of importance have occurred, and acknowledging all the difficulties and shortcomings, I know of few classes of cases that experience the deep and fundamental relief as cases of acute toxic Graves' disease successfully operated."

It is little short of marvelous how in a few days the heart beat will drop from 140 or more to normal. Of course in cases of long standing with a badly damaged myocardium so great an improvement cannot be expected.

The exophthalmos usually shows a slower improvement, and the skin, hair and mens-

trual irregularities gradually change for the better.

The mental or morbid psychic state is the earliest to disappear.

Digestion soon improves and the muscular power returns early. In cases of long standing these changes for the better are slower to make their appearance and in the very worst cases we should expect but little improvement as we are only dealing with the wreckage after the storm has passed over.

Compared with other surgical cases the immediate and remote results of operation are fully as good as the average risk and certainly in the hands of the experienced can offer as good or better results than many conditions like appendicitis, etc.

My mortality has not been over 4 per cent. and I have benefited all upon whom I have operated, apparently cured permanently about three-fourths and the remainder offered relief to some degree.

DISCUSSION.

Ap Morgan Vance: I have been very much interested and instructed by this paper. I have had very little experience in goiter work, having done only a few operations, and in those I did not know what I was taking away until I got it away.

Wm. C. Dugan: Like Dr. Vance, I have had very little experience in this line of work. Dr. Wathen made one point that I would like to emphasize; that is, the importance of studying these cases and carefully watching the pulse, and that those cases in which we are unable to bring the pulse-rate down are always dangerous, while good results are obtained in those cases in which we are able to reduce the pulse-rate. The patient should be kept under observation and not be rushed into an operation until ready for it.

A. D. Wilmoth: I have had considerable experience in the removal of thyroid glands in the last two or three years. Dr. Wathen and myself doing work in the same hospital, we have had opportunities for studying a number of cases together, and I want to agree with him that the danger in these cases is from rapidity of the pulse. It has been my observation (and there have been no exceptions to this rule) that, unless the pulse-rate can be brought down, the patient will die. This has been impressed upon me to such an extent that, at the present time, we do not tackle any case until the pulse-rate has been reduced. The patient is kept in bed, perfectly quiet, and given tincture of strophanthus, and eliminative treatment in the shape of ordinary, old-fashioned Epsom salts—not given for purgation, but just enough to keep the alimentary tract reasonably well open. When, under this treatment, the pulse has been reduced to about 100, it is considered safe to operate. If

the pulse cannot be brought down lower than 115 or 120, operation is not done and the patient is sent away.

This brings us to the question of thyroideetine. Some of these cases seem to run in eyes. I had one case in a girl whose pulse-rate was 140 when she was brought to the hospital, and the closest I could get that girl's pulse to the operative figure was 115, and the slightest excitement, such as bringing a brother doctor into the room would cause her pulse to go up to 140 or 150, and she would become cyanotic. I kept her at the hospital for more than a month, trying to get her in condition to operate on, and then sent her away. In the hope of doing something for the girl, I put her on thyroideetine, in 3 gr. doses, four times a day, and soon cut it down until she was getting only two doses a day. She took thyroideetine for about six weeks and then returned to the city, having gained 15 or 20 lbs., and so much improved that she decided not to have an operation done. That was a year ago. About two months ago I was again asked to see this girl with another acute exacerbation of the pulse-rate. She was in no condition to operate upon at this time. She would not go to the infirmary, so she was again put on thyroideetine and again went to the country, with the same marked improvement. I do not know whether to attribute this improvement to the country air, absolute quiet, to the fact that the trouble runs in eyes, subsiding for a period and then lighting up again, or whether to give thyroideetine the credit for it, but the latter seems to have a direct effect upon it.

[NOTE—This case has recently been operated upon a dernier ressort, with a splendid result, leaving hospital in 2 1-2 weeks with a pulse rate of 87.]

Jno. J. Moren: I have seen a large number of goiter cases, both simple and exophthalmic. I have treated quite a number of cases of simple goiter that have been referred to me, for electrical treatment. I have certainly been able to remove these goiters, so far as appearances were concerned, by means of cataphoresis; but, as a rule, it is not a really successful measure.

I must disagree with the doctor in regard to the rapid pulse in ordinary goiters. That has not been my experience. If I meet with a rapid pulse in a goiter case, I look upon it as an exophthalmic, rather than a cystic or fibrous goiter.

I have never seen a case of exophthalmic goiter operated upon. In one or two cases, just as soon as I began to talk about operation they looked for another doctor.

I want the general practitioners to remember that there are remedies other than heart tonics and electricity. It is now generally agreed by neurologists that electricity is of little service in the treatment of goiter. Personally, I have discarded it because I have never seen enough per-

manent results to warrant me in continuing to use it. One remedy that I would like to mention is quinine hydrobromide. I have certainly obtained good results by its use, and a number of other men in Cincinnati and Chicago have reported good results from it. Another remedy which I shall try in my next case of this kind is Lecithin. In the Bulletin of the Johns-Hopkins Hospital, in 1908, four cases were reported which were practically cured by the use of Lecithin. The author of this article questioned whether these cases of exophthalmic goiter were dependent upon over-thyroidization. In another article, which appeared in 1909, two or three cures by the use of Lecithin and other treatment were reported.

Another remedy that has proven very successful in my hands, is tincture of columbo for the relief of the diarrhoea that these exophthalmic cases have had. Dr. Wathen stated that his mortality in goiter operations has been 4 per cent. I would like to ask him what has been his mortality in exophthalmic cases?

Oscar W. Doyle: I have not had any ease on Foreheimier treatment for a sufficient length of time for it to have effected a cure, but I do know that this treatment, especially in exophthalmic goiter, has very beneficial effects in the way of reduction of the pulse-rate. His plan of giving hydro-bromide of quinine is, if there is no improvement in 48 hours, to add one grain of ergot to the dose. I have been very much impressed with the rapidity with which the volume and rate of the pulse is reduced where this treatment is used instead of tincture of strophanthus, and other heart remedies which we have used in the past. In one case where the pulse was running 150—60 I was able to reduce it to 112, and I believe I would have been able to reduce it to 100 or less had it not been for the fact that the patient had a complication in the shape of a double heart murmur. In two other exophthalmic cases which I had under observation I was able to reduce the pulse rate in one from 140 to 110 in a little over two weeks, and in the other from 120 to 98 in three weeks.

Dr. _____

The subject of exophthalmic goiter is particularly interesting to me, as I have two cases under observation, one in a boy and the other in a young married woman, in whom I have been using hydrobromide of quinine. I used it for three weeks without results, and then added ergotin to it and have so far gotten no results from it. I cannot see how one can draw any conclusions as to the effect of a certain medicinal agent when other agents have been used in connection with it; for instance, the use of Lecithin together with absolute rest in bed. I cannot perceive how one can give the credit to Lecithin and not appreciate the great importance of rest in bed. I think that, very often, that is really what does the work. Again, I think that we will fre-

quently find that the exophthalmic cases show a tendency to get well and then recur. I know of one man who is treated sporadically, from time to time, for exophthalmic goiter. He develops a goiter and then rests up for a little and it apparently entirely disappears.

One thing that I have used to reduce the rapidity of the pulse in these cases is the Nauheim Baths. I think it has a strengthening effect upon the heart muscles, and it relieves the rapidity of the pulse better than anything I have been able to find. I am free to confess that I am very skeptical when it comes to therapeutic measures in the treatment of exophthalmic goiter. However, I realize that it is often very difficult to get these patients to submit to operation until they have reached a point where they are practically inoperable. This paper of Dr. Wathen's is very illuminating and comes at an opportune time.

Wm. Sanders: Dr. Wathen is to be congratulated upon this paper. I happened to meet one woman whom he had operated upon, and she was very much gratified by the results. She is still in good condition. My experience with exophthalmic goiter is confined to one case. I saw this patient at the beginning of an attack of typhoid fever, with a pulse rate of 136. Some time previous to this it had been predicted to her family that she would live only a year or so, by a doctor who has since passed into the great beyond. I carried this young lady through the attack of typhoid, and brought her pulse down to 90 by the use of aconitine. She was very nervous and I had to give her bromides to quiet her. After she recovered from the typhoid I put her on thyroidecine, and it was impossible to persuade her to keep on taking it. Whether it did any permanent good or not, is more than I am able to tell you. At any rate, since then (about two years ago), she has been in much better health than ever before. Whether it is due to rest, the attack of typhoid, the thyroidecine, or whether she just naturally improved, I am unable to say.

Dr. Wathen (Closing): I think we are indebted to Wilson more than to anyone else for our modern conception of the physiology of the thyroid gland. In the first place, in the normal, healthy thyroid gland, we have large cells lining the acini. Now, that gland is of a certain size and it has a function. It gives off an internal secretion which pours out into the system to carry out this function, the nature of which we do not fully know. When an adenomatous condition develops, this gland increases in size and this material is given off more rapidly; likewise these cells are changed in shape. Wilson has clearly demonstrated that, in the exophthalmic type of goiter, we have a small, contracted gland, rather than an enlarged one; in other words, the gelatinous material is being absorbed into the system as fast as it is manufactured.

Now, in those cases that are apparently cured by the administration of medicine, what do we find? We find that these cells have disappeared, that only a few cells remain crowded together, and that a large amount of cicatricial tissue has been thrown out. The gland is now going down in size and the patient is supposed to be cured. In fact, the storm has passed over, leaving only a wreck behind. The myocardium, liver, kidneys and the whole nervous system are affected; it is too late for surgery, and the general practitioner claims to have cured it.

We should not operate for the removal of goiters occurring in puberty, or following typhoid fever or pregnancy, but should wait until we can positively diagnose a real tumor and class it in the pathology given by Wilson.

I can remember when, in our societies in Louisville, general practitioners continually preached not to operate on appendicitis, or gall-stone cases, and only in the last few years have we heard surgeons say the same of cancer of the stomach. I think we are indebted to Wilson for demonstrating that exophthalmic goiter is a fundamental disease and cannot be successfully treated medicinally any more than gall stones, appendicitis or cancer of the stomach. Remove the gland and watch the pulse drop from 180 down to 72, sometimes in less than 48 hours. Can you do it with any other remedy? No; impossible.

TONSILLECTOMY AS A ROUTINE PRACTICE IN CHILDREN OF A TUBERCULOUS DIATHESIS.

By WM. C. WHITE, LOUISVILLE.

This is a subject that has caused a great deal of discussion in the past two years, and it has been my privilege to see a great many children of tuberculous parentage and to watch their progress before and after operation, through the kindness of Dr. Wilson and Dr. Forster.

The operation has been done with more or less thoroughness for several years, and the results were more or less discouraging in the beginning, owing, I think, to the operator not thoroughly dissecting out the gland with the capsule intact. Present-day operators insist upon getting all of the capsule, thereby cutting off any chance of leaving a stump to contain part of the crypts, to harbor and develop any micro-organisms.

Statistics point very clearly, I think, to this gland being one of the main portals of entrance for tubercle bacilli. A great many competent observers have found undoubted evidence of this germ's action in these glands. The opinion of the various authorities have differed in detail only as to the process be-

ginning in the tonsils. I think there can be but little question of the fact that the tonsils are the main portal of entrance of systemic and glandular infection. The difference in opinions of the various authorities is in regard to the details and not as to the general theory, I might say, fact. For example, some investigators have failed to find the bacilli in the characteristic tuberculous changes that we so frequently see, but all agree that pathogenic organisms do gain access to the system through the tonsils. Some very prominent writers claim that the bacilli found in the gland are secondary to pulmonary infection. This is undoubtedly true in selected cases, but I am firmly convinced that the infection, or lodgement of the bacillus, is first in the crypts of the tonsil, and that the other infection is secondary to this. Of course, there may be exceptions to this rule. You, gentlemen, have all seen the cervical glands in children become swollen and tender—the so-called scrofulous children—and, upon complete removal of the tonsils, these same glands promptly disappear. This shows that the source of infection has been removed, and Nature is given a chance to correct whatever damage has been done.

Strassmann reports 13 cases of tuberculous tonsils in 21 examinations in the Morgue. Dievalofay experimented on 96 guinea pigs, inoculating them with pieces of tonsil until the tubercle bacilli could be demonstrated, and 15 of the pigs developed tuberculosis. If we admit that the bacilli were in the epithelium of these tonsils, then we practically admit that the gland is the main entrance for these germs, and that this source of infection should be removed if we expect to do what is best for our patient.

Piera has shown that pathogenic bacteria are much more readily absorbed through the tonsils than are non-pathogenic bacteria.

Watson Williams has shown that the protective power of the tonsils is decidedly limited, and when such limit is reached, they become a source of positive danger, not only in the shape of tubercle bacilli but other infectious micro-organisms. Clinical observations certainly connect rheumatism, endocarditis, etc., with the tonsils.

Holt recommends, in cervical adenitis, which is quite often tubercular, removal of all tonsillar and adenoid tissue, whether of large or small amount, and then begin systemic treatment. Mayo claims that 8 per cent of all tonsils removed by him are tuberculous; Robinson, 16 per cent; Ballinger, 10 per cent.

When the subject was assigned to me, I sent out thirty-six letters to the most prominent laryngologists in the country asking the following questions:

1. Do you consider the tonsil a portal of entrance for tubercle bacilli in children of a tuberculous diathesis?

2. Have you ever been able to demonstrate the bacillus in a section of these glands? If so, about what percentage?

3. In children of this type, do you think tonsillectomy or tonsillotomy the best?

4. In your experience, what has been the improvement in these children after tonsillectomy, none, moderate or decided?

5. Do you consider it good practice to advise tonsillectomy in all such cases?

I have received 21 answers, all replying in the affirmative to the first question. Twelve answered the question as to finding tubercle bacilli in the tissues, ranging from six to fourteen per cent. All advised tonsillectomy in preference to tonsillotomy. All gave answer that there had been decided improvement in subjects operated on, some claiming that they gained in blood, in resistance, in mental ability, in weight, and that they escaped a number of other diseases that are traceable to the tonsils. As to the last question, all but four considered it good practice to advise tonsillectomy.

I have had some 32 tonsils examined by various laboratories, and have been able to demonstrate the tubercle bacilli in only 7 cases, but in practically all of the cases there were tuberculous changes. I have asked Dr. O'Connor to tell you what he found in some 8 or 10 examinations that he made for me. In these examinations only 4 had pulmonary lesions; the others were apparently healthy, normal children, except they were of tuberculous parentage.

Now, gentlemen, as to the character of tonsil that I consider tubercular. These are of the submerged variety that do not show in the pharynx to any great extent. The crypts are patchulous and even connect with one another, and, in some instances, seem to be slit up, or ragged. In fact, when you look into a throat and see that more or less ragged mass between the faucial pillars, you cannot help but think of tuberculosis and look farther for other changes that I believe always follow.

I have operated on more than 300 children in the last year and, while it has been impossible to trace all of them after their discharge, I have been able to watch 84 cases. I mean by "watch" to have the cases report and be weighed, have their temperature taken, and generally looked after once a week. Of these 84 cases I can speak positively. All, with the exception of three cases, have improved decidedly. These three cases that did not improve were in an advanced stage of tuberculosis when we operated upon them.

We all, at some time or other, have had a child under our care that does not thrive, as the mother will say, has always been delicate. If you have such a case, examine that child's throat thoroughly; look for that ragged mass I spoke of, and then try to locate the crypt that leads down to the capsule, and, with a probe, search that crypt, and in a great many cases you have found the cause of the child's condition.

In conclusion, I would say that there is only one treatment—complete removal, usually under a general anesthetic. The old operation of clipping off all you could get with a tonsillotome will not suffice; in fact, in the cases I am speaking of, this operation is a delusion, as the patient and the physician feel that the latter has done all that can be done, and he usually begins to dope the poor child up on drugs. Remember, if it is necessary to remove a tonsil, it is necessary to do it thoroughly. Who would think of removing half, or even two-thirds of an enlarged cervical gland that is causing the patient trouble?

DISCUSSION.

Hugh N. Leavell: This is a timely paper on a very interesting subject. Some years ago, during my connection with a specialist of this city, I had considerable experience along this line, having assisted in some seven or eight hundred cases. I am speaking now of an experience of seven to ten years ago, and it was the custom at that time to do tonsillotomy, tonsilleectomy being practically unknown and very little used. While in the majority of cases very satisfactory results were obtained from the former operation, still there were a great many cases in which the results were unsatisfactory. My experience in nearly 700 cases operated on individually, most of them tonsillotomies, and a few tonsilleectomies in the last couple of years, has led me to believe that tonsilleectomy is by far the best operation and is not to be looked upon with the degree of timidity that was formerly taught. In the first place, I believe that a tonsilleectomy, its object being the removal of the whole of the tonsil, will give better after results, and, in the second place, the hemorrhage can be controlled as well as, if not better than, in a tonsillotomy. I know this from my own personal experience, no matter what the books say about it. The fact is, not a great deal has been written about tonsilleectomy except in the past few years, and perhaps it is not so well known as tonsillotomy. In tonsilleectomy the tonsil is thoroughly brought up and dissected from the pillars of the fauces with any blunt instruments. I use blunt scissors, and there are very few cases in which I find it necessary to use more than two or three instruments. The tonsil is grasped firmly and lifted up, then given a half turn, and, by slipping a

snare over it and going down to the base of the tonsil, a great deal of hemorrhage is avoided. I believe that, in adults, as well as in children, there is less hemorrhage from a tonsilleectomy, properly done, than from a tonsillotomy.

As to the chance for improvement in these tubercular cases, I will say that an improvement will be noted after either operation, but it will be more lasting following a tonsilleectomy. There can be no doubt that many of these patients become tuberculous, whether it be primary infection of the tonsil, or whether it be due to a lowering of the vitality brought about by frequent attacks of tonsillitis.

I am glad that Dr. White brought up this subject. I believe we, as general practitioners, should encourage the operation of tonsilleectomy in children before they have had a chance to suffer repeated attacks of tonsillitis. Tonsilleectomy is not contraindicated at any age, and if any operation upon the tonsil is indicated, tonsilleectomy is certainly the most advisable operation.

Carl Weidner: I have been very much interested in this subject, but I hardly know how to discuss it. I was rather astonished at the number of cases mentioned by the essayist as showing distinct tuberculous infection of the tonsils. I have not looked up this subject in the past year or so, but I think that the last time I did so the number of tubercular cases was not nearly so great as that mentioned by Dr. White tonight.

This subject opens up a question of extreme interest; that is, the means of entrance of the tubercle bacilli into the system, and, secondarily, of course, the means of obviating its bad results. The means of entrance of the tubercle bacilli is a question that has been discussed extensively, and opens up the question as to the mode of infection; that is, do we inhale the bacilli, or do we swallow them, and if we swallow them do we get them in milk or otherwise? If we adopt the view that the bacilli are taken in with milk, then, in young children particularly, who are very prone to infection of the lymphatic system, we can readily see that the diseased tonsil would be the route of election for the primary infection. The other view is that the tonsil may be infected secondarily. If we have a patient who is coughing up material loaded with tubercle bacilli, it may infect the tonsils secondarily.

However, be that as it may, the subject is one of extreme interest, and it is still a question what to do with a tonsil of this character. We used to look upon all the lymphatic organs as barriers thrown out by Nature against infection. It has always seemed to me that the tonsils and neighboring organs were means employed by Nature to protect the individual against infection, but of course we realize that this barrier may be broken down. A tonsil repeatedly inflamed loses its protective power and,

instead of being endowed with a protecting epithelial covering, it becomes a diseased mass and affords a means for the entrance of infection. For that reason, more than any other, such a tonsil should be removed.

Dr. White (Closing): I thoroughly agree with Dr. Leavell that there is less hemorrhage in tonsillectomy than in tonsillotomy. In doing a tonsillectomy, where you have dissected down thoroughly and for any reason your wire slips through the capsule and cuts the tonsil, you will have very decided hemorrhage, but if you will stick to the line of cleavage, there will be very little hemorrhage.

As Dr. Leavell says, age is no bar to this operation. I have operated on patients as old as 48 and as young as a year and a half.

In regard to Dr. Weidner's reference to the percentage of tuberculous cases, I will say that my figures were obtained in answer to letters which I wrote to various men. Robinson, of Chicago, gave the largest percentage, 16%; Ballinger gave 10%, and the figures ran on down to 8%. In answer to a question, a number of them stated that the finding of the tubercle bacillus itself does not necessarily mean that there has been a tuberculous change in the tonsillar tissue, but that the bacilli may pass through the epithelium of the tonsil without leaving anything behind to show that it has been there.

INDICATIONS FOR AND TECHNIQUE OF GASTRO-JEJUNOSTOMY AND ENTRO-ENTEROSTOMY.

By W. H. WATHEN, LOUISVILLE.

There is no subject that is of more vital interest to both the surgeon and the internist than that of gastro-intestinal surgery, and in this I include surgery of the stomach, gall-bladder, liver, pancreas and duodenum, which structures arise from the fore-gut; also, surgery of the second part of the gastro-intestinal tract, arising from the mid-gut, beginning below the second third of the duodenum and going nearly to the splenic flexure; and, third, those structures arising from the hind-gut, beginning in the transverse colon near the splenic flexure, and extending down to the end of the canal. It is well to consider these divisions with respect to their functions more than form, for the reason that each has a special function to perform: the first relates to digestion, the second to the absorption of digested products, and the third is a passage tube and storage cavity with expulsive power.

During the past ten years more attention has been devoted to this subject than to any other one phase of surgery, and, while it has undone much of the false teaching prior to this time, it has done much that has not been

of benefit to humanity, as well as many things that have greatly benefited humanity and helped to prolong life.

The importance of this subject may be realized from the fact that it includes, not only gastric ulcers and duodenal ulcers, but ulcers elsewhere in the intestinal tract, and the 70 per cent of all cancerous diseases of the human body which occur in the gastro-intestinal tract in the male, and the 50 per cent in the female. In women about 50 per cent of cancers develop in structures which do not permit of examination except by exploratory abdominal operation, and often cannot be diagnosed by any process of physical, chemical or microscopical examination, and the same is true of nearly all the 70 per cent of cancers in the male. However, the symptoms in these cases will usually manifest themselves sufficiently early to justify the surgeon in doing an exploratory operation, knowing that he will find some condition within the abdominal cavity that needs surgical attention. It may, therefore, often be unimportant whether or not the surgeon makes an absolutely accurate diagnosis, provided he comes to the conclusion that something will be found which demands surgical treatment, and is prepared to treat what he finds. We must bear in mind, however, that it is a serious matter to enter the abdominal cavity with this uncertainty of diagnosis unless we are adequately prepared, by training in technique and by thorough familiarity with the use of instruments, etc., to do whatever may be found necessary.

In ulcer of the stomach or duodenum we must decide what are the indications for gastro-jejunostomy. I use the term gastro-jejunostomy advisedly, for the reason that I think it conveys a more correct idea in eliminating the loop, which was the bane of gastro-enterostomy until a few years ago. It is known that the first change which occurs in ulcer is destruction of the epithelium, followed by necrosis of deeper structures, which necrosis, in a condition of hyper-acidity, would probably destroy the walls of the stomach or duodenum were it not for the fact that the stomach and duodenal walls hurriedly throw out a protective layer of connective tissue. Hence, relatively few cases are promptly or openly perforated, and only become so after a prolonged existence.

It is a peculiar fact that we have many more ulcers of the stomach in women than in men, while the reverse is true of ulcer of the duodenum. Statistics would indicate that 50 per cent of ulcers in the female are gastric, and that 60 per cent of ulcers in the male are duodenal. However, I do not believe these

figures hold good with respect to the number of perforated cases.

We will consider when a gastro-jejunostomy in these ulcer cases is indicated. We should not, as was formerly taught, operate on every patient who comes to us vomiting blood, or passing blood from the bowels, or with pain in the stomach, but we should operate on every such case that has gone through a scientific course of treatment, by medication and diet, at the hands of the internist, without relief. Such treatment failing to give relief, and the patient continuing to suffer, then an exploration should be done by the surgeon with the object in view of doing a gastro-jejunostomy if it is indicated. And here I would say that, with possibly a few exceptions, gastro-jejunostomy is not indicated unless we find, after the abdomen has been opened, that there is a manifest pathologic condition of the stomach or duodenal wall, or that there is an organic obstruction to the flow of the contents from the stomach. So-called nervous dyspepsia, and chronic dilatation of the stomach, without organic obstruction, are not indications for gastro-jejunostomy, and the condition of the patient is generally made worse following such operations: but where the condition has existed for a long time, and we find, when the abdomen is opened, a pathology as the result of an ulcer, whether it be an open ulcer or whether it be a scar of a healed ulcer in the stomach wall resulting from an ulcer, gastro-jejunostomy should be performed. If no such pathology can be found, then the surgeon should examine for some other cause of the symptoms, and, finding none, close the abdomen and acknowledge that he has made a mistake. But we may find cases of chronic indigestion with severe gastralgia, caused by disease of the appendix, or some other strictures outside of the stomach, where there is constant hypersecretion, with an excess of both total acidity and free HCl, with constant indigestion and vomiting which cannot be cured until the cause has been removed by surgery. Sometimes the pylorus is in a state of spasmodic contraction which will not permit the stomach to be properly drained. These are not cases for gastro-jejunostomy; they are cases for appendectomy, cholecystotomy, or cholecystenterostomy. In these cases if we will make an examination of the stomach contents, we will find hypersecretion, with probably an excess of both total acidity and free HCl. But, in some of these cases, the stomach contents may be neutral or even alkaline. If we will take a person with perfect digestion, wash out the stomach thoroughly, say at 9:00 p. m., drain it by aspiration so that nothing is left in the stomach,

give nothing more to eat or drink, and the next morning removed the stomach contents by aspiration, we will find about 10 c. c. of a liquid, either neutral or mildly alkaline. But, if the patient has appendicular or gall-bladder trouble, or some other gastro-intestinal trouble that is acting reflexly, we may remove, instead of only 10 c. c., from 30 to 300 c. c., with an excess of total acidity and an excess of free HCl, though the acid excess is not constant, being often absent in chronic cases. However, it does not really matter whether or not we have an excess of total acidity, provided there is a constant excess in the amount of stomach contents. Then we must operate, find the cause and remove it. Again I repeat, that we will frequently find that the source of the trouble in these cases will defy detection by every process of diagnosis known to the pathologist or internist until we have opened the abdomen, and even then we will possibly have difficulty in locating the exact trouble.

Gastro-jejunostomy has done much good and it has also done much harm. It has been performed thousands of times by our best surgeons when it should not have been performed. On the other hand, it has been neglected thousands of times by good men when it should have been performed and would have resulted in great good. Done in properly selected cases of ulceration of the stomach or of the duodenum, it may cure the ulceration and prevent malignant disease. It has been demonstrated in cases operated upon for carcinoma of the stomach, that the carcinoma developed at the site of an ulcer in more than 50 per cent of the cases, some putting it at more than 75 per cent. These figures have not been borne out by post-mortems on patients dying from cancer of the stomach, for the reason that all evidence of the ulcer had disappeared before the patient died; but, when taken in time, and the growth examined after removal, the site of the old ulcer was plainly apparent. Therefore, as a means of preventing malignant disease and curing the ulcer, gastro-jejunostomy is indicated.

As to the method of election, there is really but one; namely, the attachment of the posterior wall of the stomach to the jejunum, as near the origin as possible, to avoid traction of the stomach upon the jejunum, but always eliminating an intestinal loop. The opening should be made as long as three inches, and should extend to the base of the stomach, with little regard as to whether it is directed toward the pyloric end or toward the body of the stomach. Moynihan claims that he gets better results when the gastro-jejunostomy is made obliquely, from left to right, towards the pyloric end, while Mayo

claims that he gets better results when the gastro-jejunostomy is made obliquely, from right to left, or towards the body of the stomach. It appears, therefore, that it will not usually matter which way the operation is done. After the stomach and transverse colon have been delivered through the abdominal opening, the small peritoneal cavity should be opened by incising the transverse meso-colon, being careful not to wound or ligate the middle colic artery. Pull the stomach through the opening made in the transverse meso-colon and clamp its posterior wall in a long forceps covered with rubber tubing. Then do the same with the jejunum, and, after bringing the clamped stomach and jejunum in contact, secure them together near the clamp on both stomach and jejunum with a sero-serous suture, the line of suture extending nearly an inch longer than you intend to make the opening in the stomach and jejunum. Then, about 1-6 of an inch in front of this suture line, open the stomach and jejunum. Then close tightly with through and through sutures, including the mucous membrane, muscular structures and peritoneum. After this has been done, repeat your sero-serous sutures, including the cut edges of the mesocolic opening to the stomach and jejunum, so as to prevent the possibility of a loop of the bowel passing into the small cavity and causing a hernia. The stomach, transverse colon and omentum are now returned into the cavity and the abdominal opening closed.

The mortality, where the cases are simple, is practically nil. It must not be inferred from what I have said that gastro-jejunostomy is the best and only treatment in all cases of gastric or duodenal ulcer, for there are many cases that cannot be permanently cured without resection of the ulcer, and it may often be best to make a pyloric resection to prevent cancerous invasion, or to remove pyloric cancer in the early stage, for if cancer of the stomach is not operated upon in its beginning, we can offer but little hope of curing the patient or even of materially prolonging life. The same is practically true in cancer of the large and small intestines. Gastro-jejunostomy can be of no value in the treatment of open ulcer perforation of the stomach and duodenum unless the perforation is carefully sutured.

For the sero-serous suture I use fine celluloid thread, but silk may serve the same purpose. The suture may be introduced with a round, pointed, curved or straight needle and should include the serous and muscular cords, but never touch the mucous layer. For the suture introduced through all the layers of the stomach and intestinal walls to

close the incision I use 20-day No. 1 or 2 chromic catgut. I use the continuous suture, sometimes interlocking, as this method saves time, and if the sutures are properly applied gives perfect protection. I have never had leakage following the use of this suture in gastro-jejunostomy, or in any kind of lateral intestinal anastomosis. In all gastro-intestinal surgery, simplicity and rapidity are essential factors, and in all anastomoses of the small intestine, or the small intestine to the colon, the lateral method and the continuous suture should be adopted; the end to end method may be elected in resection and anastomoses in the colon. In resection of the ileum the division should be made well beyond all diseased tissue, and the lateral anastomoses may be equally successful if made isoperistaltic or antiperistaltic; but in resection of the colon the anastomoses must be made isoperistaltic.

DISCUSSION.

Carl Weidner: In the first place I wish to express my thankfulness that the surgeon has left something for the internist to do in these cases. A few years ago we were told that every case of ulcer of the stomach must be operated upon; that medical measures were of no avail. Now, you see, there has been a swing of the pendulum in the other direction and the internist is given a chance; or, rather the patient is given a chance to get well without operative interference.

Dr. Wathen has given us the correct rule for the management of gastric ulcer. I think every case that has come to violent hemorrhage should be treated internally for a period of from four to six weeks or two months, at least.

I have always understood that one of the most positive indications for operation is incurable ulcer, and particularly in the presence of conditions which obstruct the pylorus; or, I will say, conditions that prevent the stomach from properly emptying itself.

Here, of course, we have to deal mainly with so-called dilatation, and we recognize to-day that dilatation is chiefly caused by obstructive conditions at the pylorus, whether it be an ulcer, a carcinoma, or due to compression from the outside of the stomach by disease of the surrounding structures.

Dr. Wathen made a very peculiar remark. He said something about atonic dilation being no indication for operation. Atrophy is one thing and dilatation is another. Atrophy is often atonic and may be a temporary condition, capable of improvement by toning up the general system. Dilatation is another, and by dilatation we do not mean simply an enlarged stomach. A stomach of that kind may perform its functions fairly well at least, and may be left alone. But, when we have insufficiency in the respect that the stomach

does not empty itself and we have retention of food beyond the normal time, it is an indication to assist nature, because such a stomach is incapable of regaining its power.

Dr. Wathen made the statement that in these so-called appendicular and gastro-hepatic cases, the free HCl is greatly increased. My experience has been just the opposite. In several cases in which I have had occasion to examine the stomach contents, as, for instance, in gall-stones, I have found a sub-acidity rather than an hyper-acidity. I would be glad to have the doctor throw some light upon this point in his closing remarks.

R. Hayes Davis: Dr. Wathen, in referring to atonic dilatation, means, I think, a condition of simple atonic motor insufficiency, but, after this condition has progressed for a long period of time, fermentation and other processes set up which will, in the course of months or years, lead to actual dilatation. In cases where actual dilatation exists, with marked motor insufficiency, and medical treatment has been of no avail, I believe gastro-enterostomy offers the only hope of relief.

The next condition I wish to refer to is pyloric spasm. In many cases where hyper-acidity has existed for a great length of time, it gives rise to pyloric spasm, and it is often very difficult to differentiate between this and other causes of motor insufficiency. If this pyloric spasm persists, it will, in turn, give rise to dilatation of the stomach. So, in these cases of pyloric spasm due to hyper-acidity, where prolonged medical measures fail, the only chance for relief is gastro-enterostomy.

In regard to those cases due to gall-stones and other conditions within the abdominal cavity, I will say that, in such cases, in endeavoring to make a diagnosis, I have not found the stomach contents materially disturbed, the acidity being sometimes low and sometimes high, and I have not attributed serious gastric conditions especially to reflex disturbance from other conditions present.

I think every case of ulcer that has resisted medical treatment for a considerable length of time should be operated upon. The complications which may ensue are so serious, many adhesions forming in the upper part of the abdomen and causing various disturbances, there may be chronic pancreatitis, localized abscesses, etc., and the secondary development of carcinoma is so frequent, that I think these chronic ulcers should not be treated expectantly, but should be operated upon. When we see an individual past 35 or 40 years of age, with slight thickening of the stomach wall, I do not think anyone is capable of differentiating between this and beginning carcinoma. I saw a case last week which looked from the outside, before the stomach was opened, like a carcinoma. The tumor

was in the lesser curvature of the stomach and there was some thickening. When the stomach was opened the mass appeared to be a typical ulcer. However, section has not been made and I am unable to give a positive opinion. Many of these ulcers are thickened, but are we justified in leaving such a condition in the abdomen?

Mayo, in a recent report of 266 cases, says that the mortality following partial gastrectomy is only slightly greater than after simple gastro-enterostomy. If the mortality is so slightly greater after the more radical operation, why should a condition be left in the abdomen which may, in course of time, prove serious?

Mayo also says that, where a mass exists which is apparently irremovable, he believes it is wise to remove as much of the mass as possible, in order to get rid of the discharges, because these discharges mix with the food, and disturb intestinal digestion, preventing it from compensating for the impaired function of the stomach. Therefore, partial removal in these cases will prolong life and materially lessen the patient's suffering.

In regard to exploratory operation, I believe that every person past middle life, who develops stomach symptoms, without a previous history of similar symptoms, should be looked upon with suspicion. If the acidity of the stomach be lessened, it is suspicious. In addition to this, if you find motor insufficiency, that is, food retained in the stomach for too great a length of time, without apparent cause, it is very strongly suspicious of carcinoma. If the occult blood test shows the presence of blood in the stomach contents, or in the stools, it is suspicious. If the patient has lost little weight, or has a secondary anemia, it is of great importance in a man past middle life. Occasionally, if the abdominal wall is loose, a slight mass may be detected, and this is very fortunate, because this is usually considered an indication for immediate operation. I think every one of these cases that I have mentioned should be subjected to exploratory operation, and if that is done many lives will be saved. I remember one man very distinctly, who came to me, and I advised exploratory operation, but, unfortunately, I did not insist upon it, and he left me and went to other physicians, who were not certain as to diagnosis. Finally, he had a gastro-enterostomy performed and died two or three days later. In another case operated upon there was slight glandular enlargement. I believe that, by persevering effort, we can send these patients to the surgeon before the condition becomes inoperable.

Dr. Weidner: Do you ever expect to have a case of carcinoma sent to you in which you will find no glandular enlargement? I would also like to ask Dr. Davis in what cases he would do resection, and in what cases he would make junction between the stomach and the bowel.

Dr. Davis: (Answering Dr. Weidner) I

will say that I would be guided by the pathological status of these cases with glandular enlargement. We frequently find enlarged glands not due to a carcinomatous condition. In many cases of ulcer there will be glandular involvement, as well as in many cases of beginning carcinoma, so I do not think it is a contra-indication to the more radical operation.

Dr. Wathen (Closing): In answer to Dr. Weidner's question as to finding any cases without glandular enlargement, I would say, no. If there is a carcinoma in any part of the stomach or intestinal tract that can be demonstrated, there is also involvement of the lymph nodes of the stomach, or the mesentery, particularly those in the smaller curvature, even nearly up to the liver and the coronary artery. So, in making our resections, we must go high up and take away nearly all of the smaller curvature and the gastro-hepatic omentum, thus removing all the glands. Whenever we can detect an involved gland like the supra-clavicular prior to operation, then do not operate. The presence of enlarged glands may be detected in surgery of the upper abdominal cavity, in ulcer of the stomach where there is, as yet, no carcinomatous involvement; but I would not hesitate, in such cases, to do a pylorotomy and remove all structures, just as in pyloric cancer, for it is often impossible, in a case of ulcer with glandular involvement, to exclude malignancy, and, in any event, we are probably operating in the precancerous stage of ulcer. So, were I to open the abdomen in a case diagnosed as ulcer of the stomach and find the lymph nodes involved, either below the stomach in the gastro-colic omentum, or above the stomach in the gastro-hepatic omentum, I should feel justified in proceeding immediately to do a pylorotomy without any regard for the pathological findings.

We sometimes see inflammatory lymph nodes, often as large as a hen's egg, which are not involved in the carcinomatous degeneration. In cases of carcinoma of the colon or of the caecum, we may find a very much enlarged node at the origin of the inferior mesenteric artery, which may not be cancerous at all and which cannot be removed.

As to sub-acidity or hyper-acidity in these appendicular cases, I said that there may be an excess in the total acidity or in the free HCl, but not positively so, and where we have a chronic form with reflex trouble, there will probably be a sub-acidity and an absence of free HCl.

I make this assertion boldly, that there is no man living, be he internist, laboratory man or surgeon, who can make a positive diagnosis of the exact pathology in the average case of gastro-intestinal trouble that requires surgical treatment, until the disease has gone too far to give the patient the best chance for a permanent cure.

Furthermore, if we wait to operate upon a case of cancer until a tumor has formed that can be demonstrated by palpation, then, as a rule, we have waited too long. If we do not do a pylorotomy on some cases where a large tumor has been demonstrated, then we may have done best for the patient, because some of these tumors are not malignant, but there is so much involvement and adhesion of the surrounding structures that we cannot remove the condition by surgery. In some of these cases the tumor may have been the result of slow perforation of the stomach with extensive inflammatory infiltration.

THE LACTATING BREAST.

By THOS. K. VANZANDT, LOUISVILLE.

From a psychical viewpoint, who among us can but acknowledge his deference and respect for the full dinner-pail, the round and rosy lactating breast, with its inviting aspect? Who has passed so far from his cradle days that he no longer marvels at its wonderful life-giving power? But it is the physical viewpoint to which I ask your attention just now.

The breasts are accessory organs to the reproductive apparatus, reaching maturity at the age of puberty, being most active during the sexual life of the woman, and undergoing atrophy at the menopause. They are secreting glands, a single pair the rule, situated one on either side of the anterior aspect of the thorax between the third and sixth ribs. Amazia or absence of both breasts is one of the rarest anomalies, but numerous cases are on record of supernumerary mammae. Embryology seems to teach that the early mother nursed from seven pairs of breasts.

Each breast consists of a group of eighteen or twenty individual and separate glands, opening by independent ducts and enveloped in fat and areolar tissue. It is richly supplied with lymphatics, blood-vessels and nerves. From birth to puberty very little change is noticed, but at puberty more ducts are formed, acini are developed by the sprouting of solid buds of the epithelium lining the ducts and the connective tissue undergoes a marked change. If a pregnancy occurs, the acini develop enormously and the surrounding tissue becomes much more vascular. On the second or third day after delivery the true functional activity is first established. Milk accumulates in the alveoli and excretory ducts. The gland becomes harder, heavier, and more voluminous. After lactation the gland returns again to normal size, but is less smooth, firm and elastic than the virgin mamma. After menopause the useless gland with the rest of genitals becomes atrophied.

The changes occurring during pregnancy in

the breast all look, of course, to the future production of milk; but it has often been shown that pregnancy is not always necessary to stimulate such activity. Many cases are on record of young virgins, even as young as eight years, having developed an active lactating breast by the constant application of a nursing child to their budding mamma. This privilege is not confined to the female entirely, it would seem, for there is no question of a doubt that our male progenitors—and not as far back as Adam, either—often furnished the life-giving nourishment from their own breasts in order to help out the poor, over-worked and over-sucked mother. We are proud to note that modern social ethics and modern perfection of artificial infant feeding has put the ban on the male wet-nurse.

It is the function of gland cells to produce by the metabolism of their protoplasm certain substances called secretions and the process of secretion is not necessarily dependent upon the vital activity of these secreting cells. The principal conditions which influence secretion are: (1) Variations in the quantity of blood; (2) Variations in the quantity of the materials for the secretion that the blood may contain; and (3) Variations in the condition of the nerves of the gland. The fully established secretion of the mammary glands is an emulsion of effused serum and fat which is formed by a change in the epithelial cells of the alveoli. From 500 to 1,500 c. c. of milk are secreted daily. To remove this from the gland there is not only the mechanical action of sucking, but also the contraction of the muscle fibres beneath the areola which are stimulated into activity by the sucking. The nipple is erected and the milk-ducts and sinuses are emptied by the muscular contractions. The oftener the breasts are emptied the greater the amount of casein in the milk. The last milk obtained at any time is always richer in fat, as it comes from the acini. Human milk is always alkaline.

We know that certain substances when eaten by the mother are secreted in the milk. For instance, anise and garlic can be tasted in the milk in a short time and such drugs as cascara, chloral, opium, rhubarb, iodine, mercury and lead will act upon the nursing child. But this action is so uncertain we cannot state that a certain positive result will follow in the child and we do not believe that drugs administered to the mother for this purpose will accomplish the desired effect.

The diet suitable for a nursing mother should be nutritious and easily digested. For the first few days after delivery the mother should have milk broths, eggs, gruel, small amounts of tea, coffee, or cocoa with toast and

crackers. Later on, an abundant supply of water, soups, meats, milk, eggs and vegetables. Of the latter turnips, carrots, beets, potatoes, spinach, asparagus and lettuce will aid in the formation of milk. Systematic exercise in the open air should be insisted upon just as soon as the woman is able to get out, as this will assist in diminishing the proteids (in amount) and in increasing the fats, thus creating a milk which is easily digested. Such drugs as belladonna and saline and hydragogue purgatives decrease the milk supply and should be avoided during lactation. Avoid also any nervous shock or worry.

The relative proportion of the various constituents of the milk varies in the different months after delivery. The cause of this variation is not known, but by it those substances best suited to the child during its different periods of growth seem to be supplied. On the average we may say that milk continues to be secreted from nine to sixteen months, but it has been known to continue for five years, the child nursing constantly. The child should be taken from the breast at the end of its first year for the reason that the milk undoubtedly decreases in quality as well as quantity after that time. I am not in favor of sudden weaning. In my opinion the gradual but positive method is better. This can be done very satisfactorily by using a little common sense.

The breast of every pregnant woman should be examined by her physician at least three months before her expected confinement and, if the breasts are found to be small and poorly developed and the nipples flat or depressed, appropriate treatment should be instituted. The physiological perfection of the nipple is a matter of extreme moment, not for the mother only, but for the health of the infant. A well-formed nipple of sufficient size, not buried deeply in the areola, but standing out from the skin-surface, is to be secured before the end of pregnancy. In every case the nipple is prepared for the nursing infant in the following manner: Each night the nipple is drawn out by grasping it between the thumb and finger and thoroughly massaged with lanolin. The next morning it is rubbed vigorously with a rough cloth. This makes the nipple soft and pliable and is far superior to the old astringent or hardening treatment with alcohol, etc.

Colostrum is found in the breast very soon after conception occurs and continues until the appearance of the milk on the second or third day after delivery. The leaking of the colostrum from the breast, forming small crusts on the nipple, is one of the diagnostic signs of pregnancy. The presence of colostrum before the milk appears is purely phys-

iological, while its presence at any time during lactation is pathological and may often be the cause of alimentary derangements in the child. Mental disturbances, such as fear, grief, worry and the like, may cause the presence of colostrum during lactation.

After the termination of labor, two causes are paramount in producing nipple diseases, viz: lack of development and lack of cleanliness. A little care and attention will often prevent much unnecessary suffering. If a fissure or erosion does occur, the application of a 2 per cent solution of silver nitrate after each nursing and the use of a glass nipple shield will be found of great service. Astringent lotions, bismuth subnitrate in lanolin, pure rubber dissolved in chloroform, or a 4 per cent solution of cocaine have all been employed. The secretion of milk may even require suppression in order to bring about healing. Mastitis or inflammation of the breast follows an infection through a defective or morbid condition of the nipple, either microscopic or macroscopic. Most frequent during the early days of a first lactation. The cause is usually not difficult to find and in the great majority of cases can be traced to lack of cleanliness. An early free incision under anesthesia is always indicated, the incision radiating toward the nipple. Don't wait until the abscess points. Take the child from the breast and diligently use the breast-pump to prevent lacteal engorgement. The use of the bell-jars, the Bier hyperaemic method, is of signal service in these cases.

The sucking of the child is the best stimulus to the flow of milk and should always be obtained if possible. We often have our attention called to an inactivity of the secretory apparatus and the cause of this defective lactation should be carefully sought for and remedied when ever possible, instead of putting the child at once on artificial food, as is so often done. The inconvenience of nursing the young hopeful is often a source of annoyance to the modern mother and she may welcome the chance to escape it. I do not say this is the case with all modern mothers, for many of them have told me that their greatest pleasure was found in nursing their baby; but it is the case more often than we care to admit. Among the local methods at our disposal for increasing the supply of milk we might mention the following: Constant and systematic use of the breast-pump, electricity, warm poultices of mustard or calabar bean, and active massage with olive oil. The internal administration of galactagogues has not proven satisfactory; their effects are only temporary. Beer, ale and the malt preparations may increase the quantity of milk secreted, but invariably decrease the quality, and

therefore should not be used for any length of time. Anaemia is the most usual cause of defective lactation. "The functional activity of an organ is directly proportional to the supply of blood furnished to that organ, and this is a very important law to remember when we are dealing with such a gland as the mammary. We therefore expect to secure the greatest improvement in the secretion of milk before and after nursing with a saturated solution of boric acid. Support with a light breast binder when pendulous. The result will be fewer cracked nipples and abscesses.

Proper care of the breast during lactation is also necessary. Wash the nipple and breast before and after nursing with a saturated solution of boric acid. Support with a light breast binder when pendulous. The result will be fewer cracked nipples and abscesses. At times it becomes necessary to check the formation of milk, either within the first day or two after birth of child or at some subsequent period. We all know what an ordeal this is. Internal medication and regulation of diet aid us very little. Belladonna ointment and plaster or camphorated oil, the application of a tight-fitting binder, and the use of a breast-pump or massage whenever the lacteal engorgement becomes pronounced, is the usual method of treatment. Last fall an article by Dr. H. J. Storrs, of Baltimore, on this subject attracted my attention. His conclusions were based on quite a large number of cases and the method of procedure was so simple that I concluded to try it. The method is this: Leave the breasts absolutely alone and allow nature to pursue her own course in checking lactation. In the past eight months twelve cases in which it was necessary to check lactation have come under my observation and all have been left absolutely alone. A light supporting binder not tight enough to cause compression or a small pillow placed on each side of the chest to hold the glands in the normal position was all that was necessary. Eight were primipara and four multiparae. The lacteal engorgement reached its height in four cases in 48 hours, in seven in 72 hours, and one in 96 hours. No pain whatever was complained of in seven cases and only slight pain in five. A hypodermic was never necessary in any case. In all the cases except two the breasts had returned to normal and were empty by the sixth day, milk being found in these two until the ninth day. These results have lead me to believe that nature, if let alone, can often accomplish more than our most earnest efforts and I recommend this procedure for your consideration.

DISCUSSION.

Edward Speidel: I have enjoyed Dr. Van Zandt's paper very much. I wish to emphasize one statement he made, that we must exercise great care in the administration of medicines to a woman during lactation. I had an unusual experience along that line not long ago. A patient of mine, not long after delivery, suffered severely with hemorrhoids and I give her a well-known ointment containing extract of belladonna. In about twenty-four hours there was a great diminution in the amount of lacteal fluid, which I at once attributed to the belladonna and stopped its administration, with the result that the flow of milk was resumed.

In the treatment of cracked nipples in primiparas, I have used Argyrol solution in preference to nitrate of silver. I allow this to dry on the nipple and have the baby nurse through a glass nipple shield. I believe Argyrol solution is less painful than nitrate of silver and it seems to be equally effective.

I agree with the essayist in regard to natural weaning: I instruct my patients to drop one nursing every three or four days, and in three or four weeks the condition of the breasts returns to normal.

Speaking of conditions that bring about the formation of colostrum, it is well to remember that violent coitus will bring about the same result, and sometimes a severe diarrhoea in the infant can be traced to this the night before. It is well to bear this in mind when we see a sick infant during the lactating period.

In regard to mammary abscesses, my experience along that line has led me to the conclusion that a mammary abscess should never be opened under any but general anesthesia, for the reason that, as a general rule, when we get into the breast, we find the condition much more severe than was at first thought. Furthermore, we should not only make the incision large, but the finger should be extended towards the periphery of the gland, a counter-opening made at that place and drainage established through the periphery. If this is not done, the opening will have a tendency to close up, a small pocket of pus will form in some other part of the breast, and, of course, the whole process has to be repeated, to the injury and annoyance of the patient.

John G. Cecil: I have practically nothing to add to the paper, as I find myself in general accord with the essayist in all the positions he has taken. In regard to his statement that nursing should be stopped during treatment of the breast, I think this is very good advice. I have practiced this for about 25 years, and I have never seen a mammary abscess in a breast that was not nursed, nor have I seen a mammary abscess in any case in which the patient had not suffered from fissured nipple, or some process to which could be traced the external infection. I am

glad to note that the essayist does not chime in with the idea that caked breast, or retained milk is a cause of abscess, as was long believed. We are certain now that abscesses here are the same as abscesses elsewhere in the body and that the source of infection must be from the outside.

It has been my experience that the less we pump the breasts, the less we massage them, and the less attention we pay to them generally, the less trouble we will have. If they become painful, a bandage may be required, or sometimes an opiate or anodyne may be necessary to afford relief.

The question of the elimination of medicines by the breast is one on which very little will be found in the literature. I had occasion to look up this question many years ago, and at that time I inquired of numerous medical friends their experience along that line. I had myself seen one case of decided poisoning by opium which the child had obtained through the mother's breast. Upon inquiry among my friends I learned of a great number of cases of poisoning of various kinds obtained through the same means. Dr. W. L. Rodman reported a case of the death of a child from opium poisoning which had obtained the opium through its mother's breast, and I learned of numerous cases of quinin poisoning obtained in this way. At that time (about twenty years ago) a great deal was being written and said about the treatment of infants, especially those who were syphilitic, by the administration of medicines to the mother, with the expectation that the child would get sufficient medicine, by elimination, from the mother's breast, for the relief of the condition. I looked up the literature on this subject and came to the same conclusion that the essayist has, that this method of treatment is too uncertain to be depended upon.

I am satisfied, however, that a number of medicines are eliminated by the breast, such as the salicylates, to some extent, and many of the purgatives. I think it is rather strange that we do not see more such cases, because we know that cow's milk, for instance, is often tainted by the different kinds of food the animal eats, and it is to be presumed that mother's milk would be similarly affected, and yet we do not often find it necessary to restrict the medication of mother's on account of a nursing infant. I believe that the time when it is most dangerous to give the mother medication so far as the possibility of poisoning the infant is concerned, is during the first two or three days after the birth of the child, before the true function of the breasts has been established.

This is a very interesting subject and I am glad to have heard the paper.

R. E. Wilhoyte: The essayist spoke of supernumary breasts, and also absence of the breasts. About two years ago I saw a child with total absence of the breast on one side, and at first I thought there was complete absence of the

pectoral muscle, but I afterwards found that she had every function of the arm and it seems, therefore, that the pectoral muscle was intact. I would like to ask the essayist to say in closing whether he could suggest any means of stimulating the muscles so as to cause the breast to develop in such cases.

I was glad to hear the essayist speak so favorably of allowing the breasts to dry up naturally. This is contrary to the methods usually practiced by the laity, such as rubbing, massaging, putting on poultices of panekes, etc.

I would also like to ask the essayist what he would do in a case of a super-abundance of milk during the nursing period. I had a case two years ago in a young woman who secreted such quantities of milk that she had a great deal of trouble in controlling it. I put her on a very strict diet and used solutions for checking the amount of milk, and was able to accomplish the desired end in about two weeks.

Michael Casper: I would like to emphasize one or two points made by the essayist and also by Dr. Cecil. One is in regard to infection in these cases. We are now certain, as Dr. Van Zandt has so well brought out, that infection is not due to the engorgement of milk in the breast, but probably obtains entrance through a cracked nipple and travels along the lymphatics, which are entirely outside of the lacteal ducts; in fact, as a rule, the milk does not contain pus, especially in the early stage of infection.

I differ with the essayist in regard to one point. I believe, as a rule, no harm will result from allowing the baby to nurse the breast, and especially is this true if Bier's hyperemic treatment is employed. I have tried this in one or two instances, and it has worked exceedingly well. Also, where this treatment is used, we need not be in a hurry to open up the breast. I have had two cases recently, in which, under other treatment, it would have been necessary to anesthetize the patients and open up the breasts, but under the hyperemic treatment, to my great amazement, they finally subsided without any abscess formation whatever. Furthermore, when this treatment is used, if the breast should require opening, only a very small opening is necessary. It is surprising how little pus formation there is and how quickly they will heal under the so-called Bier's hyperemic treatment. In many cases we can avoid these abscesses and allow the child to keep on nursing without any trouble.

J. Rowan Morrison: This subject is very interesting from another standpoint; that is, the necessity of having mothers nurse their children. In the present day there are a great many women who lead excessively nervous lives, and these women are not able to nurse their children properly. It matters not how much air, or how much food, or what kind of food they get, while they may be

well fed and well nourished, still it appears that they are not able to supply their children with the proper sort of milk.

It does seem to me that our modern easy methods of feeding children artificially may possibly keep some mothers from nursing their children; that women who have to earn a living, and others, may be led to feed their children by artificial means when it is presented to them in such an attractive way as at present. Therefore, I think we should impress upon these mothers the advantages of properly nursing their children. It is not that they do not desire to nurse their children, because many of them do, but they may be led to put aside that desire for the sake of convenience.

Edward Speidel: It is my understanding that, in order to secure the best results from the method of checking lactation which the essayist suggests, it is necessary for the patient to remain in bed for several days. It seems to me that, in the majority of cases where it becomes necessary to check the secretion of milk some months after delivery, it would be a difficult matter to induce the woman to go to bed and remain there for four or five days. I would like to ask the doctor what his experience has been along this line.

Dr. Van Zandt (Closing): In regard to Dr. Speidel's question, I will say that all my cases have been shortly after delivery, and I have never had any experience in trying to induce patients to remain in bed, several months after delivery, in order to check the secretion of milk. However, I should think any woman would be glad enough to go to bed for a few days in order to get the benefit of this splendid treatment, because it certainly checks the milk supply.

In regard to Argyrol, I have used it, but did not mention it in my paper because I have had such uniform success with a two per cent solution of nitrate of silver.

Referring to Dr. Speidel's remark about violent coitus having an effect upon the milk, producing colostrum, I think I covered that in my remarks about nervous shock.

I am glad to say that I agree with Dr. Speidel in regard to employing general anesthesia in opening abscesses of the breast, and Dr. Casper has brought out a very good point in regard to using Bier's hyperemic treatment and not opening these breasts as soon as we formerly did. I have used this treatment in only one case, and it finally had to be opened, but drainage was better and the opening smaller, and the patient did not have near as much trouble.

In regard to Dr. Cecil's remarks about the elimination of drugs from the breast, I was able to find very little about this in the literature. I think the effect on the child of drugs eliminated by the breast is really over-estimated. Of course, we know that poisoning does occur rather frequently, but I do not believe that it is necessary

to restrict medication of a nursing mother to such an extent as we have been led to believe.

In regard to the case of absence of the breast on one side, if we go back to embryology, we will find that the absence of both breasts is the rarest of all anomalies, but the absence of one breast is not so rare. It is, of course, due to lack of development, and in the case mentioned here tonight I would suggest the use of electricity to stimulate the muscles.

The only remedy for a superabundance of milk that I can suggest would be to get two or three children to help out. I have a case on hand now of a mother with a baby a week old, and she has more milk than she knows what to do with. She uses a breast pump all the time, and that is about the only way out of it.

In regard to Dr. Morrison's remarks about the nervous element in these women, the only real remedy that I can see for this is to get them to go to the country, away from the surroundings which excite this nervous element. It is a fact, however, that a good many of them could nurse their children, but won't.

CLINICAL CASES

HYPO-EPINEPHRY (?) OR ADRENAL INADEQUACY.

By F. T. FORT, LOUISVILLE.

(Report of Case, Including Later Autopsy.)

This is a gentleman who has given all the doctors who have had anything to do with him a great deal of trouble, and I do not believe any of us have been able to tell exactly what is the matter with him.

This man was taken sick about a year ago with something like rheumatism, and went to Martinsville, Ind., where he became very much better and came home and resumed his duties as a ticket agent in a passenger depot. He grew worse again, his pain returning, etc., and came to me for treatment. I treated him for a while and then he went to Martinsville again, but with no results. He came back last August and began taking treatment from Dr. Zimmerman and myself, but did not improve, and we sent him to the Paducah R. R. hospital and they gave him a great deal of salicylate of soda and his stomach went back on him and it was thought he would die in spite of anything they could do. He returned home some time in November and has seemed to go from bad to worse since. Sometimes he would improve slightly and the pains would cease, and then recur. About December 23 he had complete retention of urine. Previous to that we had discovered a prostatic enlargement. We were unable to introduce anything larger than a filiform bougie. The prostate

was very hard and felt as if it might be cancerous. To relieve the retention we sent him to the infirmary and did a suprapubic cystotomy. After getting in we found that the gland was not cancerous, and enucleated a fibroid prostate. He seemed to improve after this, and did not have any pains or rheumatic affection until after the fistulous tract from the suprapubic prostatectomy had closed. Then the pains returned, and we have given him nearly every remedy in the *Materia Medica* without results.

This man looks older than he is. He is 58 years old, has never been dissipated, never had syphilis, and never had an attack of rheumatism previous to this illness. This condition came on about a year ago, and up to that time he had made a practice of riding a bicycle every day. He has always been a sparely built man.

I will be glad to have you examine him and give me your opinions of the case.

DISCUSSION.

W. C. Dugan: I think this case is one of malignant disease of the liver. In fact, I am quite sure that it is malignancy and that this man will die in a very short time.

Dunning S. Wilson: Examination shows that this man's liver extends well below the border of the ribs and about three inches to the left, just below the sternum. I do not think there is any doubt that he has a malignant condition of the liver. The man is very cachectic and I think he will last only a short time.

Wm. Bailey: It appears to me that all the trouble this man has at present is due to the liver condition; he has apparently no trouble in connection with the bladder or prostate conditions. The liver extends two to three inches below the border of the ribs, but it is not a disposed liver; it is a liver that is enlarged.

Dr. Fort (Closing): I wish to thank the gentlemen for having examined this patient. Dr. Zimmerman and I talked over the case some time ago, and we both expressed ourselves as believing that there was a malignant disease somewhere. He has a great deal more pain tonight than he has been having. He has tender spells, as we might term them, of the upper abdomen. For several days he will be quite tender, and then it will improve. Two or three weeks ago I was able to palpate all around there without eliciting any tenderness. During the fall he had a good deal of gas, and I gave him 1-100 gr. of bichloride of mercury and 5 grs. iodide of potash in lactopeptine, which seemed to relieve the gaseous formation.

The prostatic condition that I spoke of was only an intercurrent trouble. He had been having very little difficulty in passing urine and the retention came almost as a thunderbolt from a

clear sky. It was with difficulty that I could get a filiform bougie into his bladder, and his prostate was at that time as hard as a rock. I have since been inclined to attribute this to incessant riding of a bicycle, but, at that time, in view of his cachexia and the hardness and carcinomatous feel of this prostate, I thought it was cancerous and only took him to the infirmary to relieve the retention and make his last days as comfortable as possible. However, upon finding that the prostate was not cancerous, I was able to enucleate it, and I was in hopes for a while that this would result in considerable improvement in his condition, as the pain in his abdomen ceased and there was no tenderness, but these symptoms afterwards recurred.

REPORT OF POST-MORTEM IN CASE OF HYPOEPINEPHRY, OR AD- RENAL INADEQUACY.

By F. T. FORT, LOUISVILLE.

This patient (whom I presented to the Society about a month ago, and whose history will be found elsewhere in this JOURNAL) died several days ago and, upon post-mortem examination, proved to be a veritable pathological museum. When I exhibited him here, it seemed to be the consensus of opinion of those who discussed the case that it was one of carcinoma of the liver or duodenum. Dr. Zimmerman and I had gone over the ground time and time again and, being at a loss to know just what the condition was, I was about convinced that the members of the society who examined him were correct in their conclusions; in fact, when he died I told the undertaker that death was due to carcinoma. I obtained permission from his wife to do a post-mortem, and made an incision from the ensiform cartilage down to the pubic arch, and lo and behold, the liver and gall-bladder were found to be normal. The stomach hardly looked like a stomach. Although not abnormal in any way, it was very much contracted, being not more than half as large as my wrist and four or five inches in length. I began at the stomach and read the intestines down to the ileo-caecal valve, and the only pathological condition I found was a diverticulum, located about fourteen inches from the ileo-caecal valve. Then, pulling up the caecum, I came upon the appendix, which was adherent posteriorly. While there was no history of appendicitis that I could get, still this little appendix, which is not more than half an inch in length, was adherent. Then, feeling up the right side, under the liver, I found a tumor. I thought at first it was a kidney although it seemed a little too soft. I pulled it out and tied it off, and it proved to be a cyst just about the size and shape of a

kidney, and containing about six ounces of fluid. Dr. Allen was kind enough to examine this fluid and make a culture, and he tells me that it contained colon bacilli. Just beneath this cyst was a little rudimentary kidney. There was complete stenosis of this kidney; no communication with the ureter at all. The left kidney was about five inches long, three inches broad and two inches thick, making it perhaps one-third larger than the normal kidney, which is accounted for by the fact that it did most of the work. There was no trouble at all in the colon. The spleen was normal, as well as the pancreas. I was unable to find any suprarenal capsule.

Now, I do not know yet what this man died of, but am sure that the members of the Society, myself included, were mistaken in the diagnosis of carcinoma.

When I presented this patient to the Society, all the members seemed positive that he had carcinoma, and now that the man has died and a post-mortem has been made, it seems that we are still unable to make a diagnosis that will clear it up.

In regard to the supra-renal gland, that is the only thing I can hitch onto now. I feel that perhaps he had a very small supra-renal gland and one that did not perform its function as it should. To describe this condition, Bernard and Bigart suggest the terms Hyper-epinephry and Hypo-epinephry. The former cannot at present be distinguished from any other condition that brings about high arterial tension. Hypo-epinephry (adrenal inadequacy) is easier to circumscribe, at least theoretically, and occurs in three chief forms: acute, lasting a few months, then sub-acute, and then chronic. The former includes the pseudo-choleraic form and the pseudo-meningitic form of Sergent.

The essential features are myasthenia (muscular weakness) and hypotension, the systolic pressure being less than 100 m. m. of mercury. Other symptoms are lumbar pains, or pains elsewhere, headache, hyperesthesia and sudden death. The sub-acute form lasts a few weeks to a few months. The chronic cases are equivalent to so-called Addison's Disease.

This patient had myasthenia very pronounced, and this had been going on for some time. Then his skin, while not typical of Addison's Disease, was of that character. Since we can make no other positive diagnosis as to the cause of death, I am inclined to think that was really the cause. In the acute form of hypoepinephry you have these pseudo-peritonitic attacks. He had these last summer. His stomach would become distended and he would complain of severe pain over

the whole of the abdomen. He had one or two attacks of diarrhoea, and that is another symptom which Saylor describes as pseudo-choleraic. He had no meningeal symptoms.

PLACENTIA PREVIA CENTRALIS.

By J. B. LUKINS, LOUISVILLE.

(Report of Case.)

Mrs. M., age 33, mother of five children, eldest age twelve, youngest age three. Have all been dry labors, forceps used at first delivery. A year ago at this time, patient was about three months pregnant when her condition became serious from Hyperemesis Gravidarum. After a consultation with three other physicians, the pregnancy was terminated by emptying the uterus. Patient made an uneventful recovery and after sending her to the country to recuperate, nothing more was heard of her until May 4, 1910, when I was called to see her and found her a little over six months pregnant. At this time she was complaining of backache and constipation, but gave a history of having been unusually well during the entire six months. About the second month had had slight morning sickness which lasted for only two or three days. Patient was well nourished and seemed to be in robust health.

On May 8 was again called and found that patient was bleeding slightly from the uterus. No pains and dilatation of os, foetal heart sound normal. Patient was put to bed, sedatives and absolute quiet ordered. Hemorrhage partially subsided, but bloody discharge continued for about four days, when patient had another hemorrhage, more severe than the former, passing approximately two ounces of bright red blood. On the following day, May 15, bleeding stopped entirely and everything went well until May 30, when hemorrhage again began with slight pains in pelvis. By vaginal examination, os was found to be dilated sufficiently to admit two fingers, no presenting part of the child could be felt, but a soft mass, which I readily recognized as placenta, could be made out, completely covering the internal os. In the afternoon of this day Dr. Boggess also saw the patient, but by this time pains had subsided and bleeding practically stopped. It was then decided to wait for more dilatation before any interference was attempted. The pains never returned, hemorrhage recurred at about twelve hour intervals and pulse increased gradually to 140, when on June 1, with Dr. Speidel, patient was delivered of a seven-month foetus. Under slight chloroform anaesthetic the hand was thrust through a placenta previa centralis, a foot caught and brought down and the

child immediately delivered through the placenta. After twenty or thirty minutes' effort the child was resuscitated and in spite of a recorded mortality of 95 per cent in such cases, is alive and doing well. The mother has had absolutely no trouble except severe after pains and is now practically out of danger.

DISCUSSION.

Edward Speidel: I was very grateful to the doctor for calling me into this case. When I first saw the patient, she had a pulse of 144, and I was told that it had been 140 or more for the past 48 hours. Upon auscultation the foetal heart sounds could be heard, at the rate of about 160 per minute. Upon vaginal examination, I could easily introduce the finger into the cervix and palpate the placental tissue, but, as the patient was rather nervous, I was unable to make out the extent to which the placenta encroached upon the cervix. Diagnosis was certain, and the condition of the patient was such that I considered it advisable to immediately deliver her, even without transferring the patient to the infirmary, believing that an attempt to do so might result in sudden hemorrhage which might cause the death of the foetus if not of the mother. The surroundings were good, there was a good nurse in attendance, and I felt that she could be delivered safely in her home. Under surgical anesthesia and aseptic precautions, manual dilatation was begun as soon as my finger entered I realized that we were dealing with a central attachment. I finally succeeded in effecting dilatation so that I could introduce my full hand, and finally brought a leg down. Of course, during these manipulations there was considerable hemorrhage, and, as we thought it inadvisable to keep the patient too long under the anesthetic, delivery was expedited as much as possible by making traction upon the leg that had been brought down. Dilatation and delivery were accomplished in about half an hour. Further bleeding was controlled by Dr. Lukins by pressing upon the fundus of the uterus, and in a very short time the placenta was expelled.

In connection with this case I will say that, the child, having been severely asphyxiated, it was resuscitated by the Byrddew method, which I have used in a number of cases and found very effective, that is, total immersion of the infant in water as hot as the hand can stand, thus practically duplicating intrauterine conditions, and producing a stimulating effect upon the respiratory center at the base of the brain. It proved effective in this instance, and the child soon began to gain color and is alive to-day.

When we consider the mortality in these cases,

we can count ourselves very lucky upon the outcome of this case.

This case also brings up the question as to whether or not Cesarean section is preferable in a condition of this kind, as it is in this form of placenta previa that Cesarean section is advocated. I believe that if the cervix is dilatable in such cases, delivery can be effected safely, and with about the same prognosis for mother and child as by Cesarean section. One reason why Cesarean section would not be advisable in these cases is that we can rarely promise a living child in a case of placenta previa centralis, because these cases are all premature deliveries, and I will venture to say that few women would consent to Cesarean section unless they were more or less certain of having a living child as a reward for the trial they undergo.

J. Garland Sherrill: I think the result in this case is very satisfactory, especially in that the child was delivered at the seventh month and carried on to viability. I once performed Cesarean section in a case of placenta previa, saving both mother and child, and the latter lived five or ten minutes and died. The fact that the child was cared for by an incompetent assistant had, I think, something to do with its death.

My views in regard to Cesarean section in placenta previa have changed somewhat. With the present effective methods of delivering these cases, I would be inclined to trust to them, but in the case of a primipara, with a rigid os, where the hemorrhage is often profuse, I still believe that Cesarean section has the call. As Dr. Speidel says, one of the chief reasons for Cesarean section is the delivery of a living child, and if this delivery occurs before the seventh month of pregnancy, there is not much chance of delivering the foetus alive. Therefore, we must depend upon this operation mainly in the latter stages of pregnancy. I do not believe, if the life of the child has already been sacrificed, or if there is no hope of saving it, that Cesarean section should be performed. However, the mortality from Cesarean section is not as great as it is usually thought to be, being very slight in competent hands. The operation can be done in a few minutes, and the hemorrhage which we were formerly taught was alarming, is really comparatively slight. I consider the operation one of the simplest of those done around the cervix.

Edward Speidel: I would like to ask whether any of the members present have ever had a case of placenta previa with a rigid os? I have had eight cases, and in every one the cervix was easily dilatable. Although the books speak of placenta previa with a rigid os, I have never met such a condition.

Walker B. Gossett: I am glad that Dr. Sherrill has changed his mind in regard to Cesarean section in every case of placenta previa.

I wish to compliment Drs. Lukins and Speidel

upon the result they obtained in this case. We know that placenta previa occurs most frequently in the multipara, and when the condition is recognized the question comes up as to whether the uterus should be emptied immediately. In some cases I have felt that it would be safe to wait a little while, but on the whole I believe the best teaching is to empty the uterus at once.

In going through a central attachment of the placenta, I consider that the best plan is to bring down a foot and allow slow delivery of the head, and not pull the child through but allow it to be pushed through by the uterine contractions. Of course, in Dr. Lukin's case, rapid delivery appears to have been the best thing to do, but in ordinary cases it is usually best to allow the uterus to contract and push the child through, until dilatation is complete, and then rapidly deliver the head.

John G. Cecil: Answering Dr. Speidel's question, I will say that it has been my unfortunate experience to have had one case of placenta previa centralis in which the cervix was very rigid and delivery was, of necessity, very slow. In this case the woman had gone to very nearly full term, probably eight and a half months. We entered the womb by tearing the placenta loose on one side, rather than the center, and, generally speaking, I should prefer separating the placenta at one side and leaving as much of it attached as possible in the interest of the child. It is just as easily done, and when you enter that way you can reach a foot and bring it down, and that acts as a plug and in a measure controls the hemorrhage. In the case of which I speak, however, the head was presenting, and we found it best to put on high forceps, turn the head into the cervix and into the canal, and there leave it alone, just as suggested by Dr. Gossett, especially since there was no further hemorrhage, the head acting as a plug and stopping the hemorrhage entirely. Probably eight or ten hours were necessary to effect delivery with what we considered safety to the mother. The child was dead when delivered, and we were not able to resuscitate it. The woman recovered, but afterwards died from embolus in the brain.

I wish to compliment Dr. Lukins and Dr. Speidel upon their case; they were very fortunate and showed a degree of skill not possessed by all of us. Most of these cases are very unfortunate, usually ending in death to both mother and child.

The question of the advisability of performing Cesarean section is a very interesting and important one. If there has been a great deal of hemorrhage, I do not see what good a Cesarean section will do, because, in all probability, the child will die before it can be delivered, and, of course, the mother is not in good condition for operation. If we can get them early, I believe

Cesarean section offers the best chance for both mother and child. In the primipara I do not think there is any question as to the advisability of the operation. We all know how slow the cervix sometimes is in dilating, and we know how harmful it would be to draw the child through an undilated cervix. Therefore, I should say that every case is a law unto itself, and the ultimate outcome would depend largely upon the judgment of the attendants. In the case reported tonight, I do not think Cesarean section would have been advisable. Dr. Speidel, with his knowledge and skill, could act promptly and wisely, and he certainly exposed his patients, both mother and child, to less danger by delivery in the natural way than if he had undertaken Cesarean section.

Dr Lukins (Closing): The first time I saw this patient, immediately after the first hemorrhage, the os was very rigid, and it was only after waiting a week or ten days that it became sufficiently dilated for delivery.

I think any one who had seen this case would have advised rapid delivery, on account of the condition of the mother, the hemorrhage being very profuse.

ENLARGED PROSTATE; VESICAL STONES WITH DIVERTICULUM.

By J. GARLAND SHERRILL.

(Report of Case.)

The specimen which we present is one of enlarged prostate complicated by vesical stones, one of which was enclosed in a small diverticulum. Diverticulae of small size are not infrequently seen in cases of chronic retention of the urine, their development probably depending upon a thickening of the muscular folds in the bladder wall and between these folds a bulging of the mucosa outward from pressure. In a few cases reported it is reasonable to suppose that the diverticulae have been congenital in origin. The larger number of diverticulae are small and do not cause much trouble, but some of them are of large size, are imperfectly drained and give rise to very annoying symptoms. Dr. Hugh Young, in 1894, made a very interesting report upon this subject before the Southern Surgical Association, mentioning one of his own cases with others, the larger number of which accompanied prostatic enlargement; in four cases, stricture, which was never severe or of very small caliber, was present. In one case the symptoms suggested the presence of perivesical abscesses which had ruptured into the bladder. In another case the diverticulum lay within the urachus. He says that in most

cases the diverticula are not closely adherent to surrounding structures, but are covered for the most part with peritoneum; while in some cases considerable inflammatory infiltration was present around the diverticulum with adhesions to surrounding structures. A variable amount of muscular tissue was found in the microscopic section of the walls of the diverticula.

Complications which are likely to be seen in cases of diverticulum are encysted calculi, severe cystitis, perivesical abscess, peritonitis, obstruction to the ureter by pressure of the diverticula, etc.

Young mentions under the head of treatment, catheterization, which he considers unsuccessful; drainage; enlargement of the orifice; suture of the orifice without incision of the diverticulum; anastomosis between diverticulum and bladder, and complete excision of the diverticulum; and he considers extravescical enucleation of the diverticulum through a median suprapubic incision without opening the bladder as the method of choice.

In my case here reported, the diverticulum was small and it was unnecessary to make any special effort looking toward its treatment. The only difficulty connected with the case was in extracting the stone from its bed in the diverticulum.

This patient, white, aged 64, referred by Dr. W. G. Ramey, gave a history of having suffered with his bladder for a number of years, and for two years had been leading a catheter life. When I saw him on November 26, 1909, he would retain four ounces of urine which had to be drawn every three hours, the distention of the bladder beyond this point causing great pain. He also complained of the pain which is so characteristic of vesical stone, and suffered from spasmodic attacks of severe vesical pain.

Rectal examination revealed a very large rounded adenomatous prostate. His urine was highly alkaline and contained a large quantity of pus, albumen, some blood, but no casts. Owing to great sensitiveness and amount of pain that the patient suffered we deemed it inadvisable to make a cystoscopic examination.

Diagnosis. Prostatic hypertrophy with probable vesical stone. No instrumentation was done except the urine was drawn with a soft catheter and the bladder washed out daily for three days prior to operation. He also received five grain doses of hexamethylenamin four times a day.

On November 29, 1909, with the assistance of Dr. Kahn, a superpubic prostatectomy was made. The bladder having been washed free of ammoniacal urine until the fluid returned clear, was left distended with saline solution. As soon as the bladder wound had allowed the escape of the fluid a good sized stone about an inch in diameter was felt and removed; beside this a small stone about half its size was removed, and lying at the base of the bladder one-half being engaged in the diverticulum, was another stone which consisted of a body, a neck and a well rounded head. The weight of the stones after drying was 215 grains.

DISCUSSION.

Irvin Abell: The case reported by Dr. Sherrill is extremely interesting.

My personal experience with diverticulæ in the bladder is limited to one case, in which the history was not at all unlike that of Dr. Sherrill's patient. Previous to operation we were able to make out one stone in the bladder with the searcher, and, after the patient was placed under anæsthetic, with the cystoscope. The amount of residual urine was never less than three ounces. The prostate did not appear to be materially enlarged. Upon opening the bladder, supra-pubically, to remove this stone, a well-marked diverticulum was discovered, into which the tips of two fingers could be inserted. It was believed to be unwise to leave a diverticulum of this size, as it would hold at least an ounce and a half of urine, and it would be impossible for it to drain under ordinary circumstances. Therefore, we endeavored to enucleate this diverticulum through the supra-pubic opening, and it was anything but an easy matter; in fact, when we got through we had all of the fecal sphincter and the lower part of the bladder which lay immediately under the anterior wall, and I was a little uneasy as to the ultimate outcome; but, beyond being prolonged, the convalescence pursued the ordinary course of supra-pubic prostatectomies. A drain was put in and, at the end of three months, the wound had entirely closed, the man had gained control of his urine and was able to hold five or six ounces.

W. C. Dugan: This is a very interesting case, and shows conclusively that the supra-pubic route is the one that should be selected in these cases.

I remember an autopsy made a number of years ago on a man with an enlarged prostate, and he presented an unusually large diverticulum, almost as large as the bladder itself, holding several ounces of urine and containing a stone. Diagnosis had to be made in this case.

Irvin Abell: Dr. Dugan's report recalls a case

which came under my observation, although I was not personally connected with it. This case was somewhat similar to my former case, except that the operation was not done for stone but for enlarged prostate, through the perineal route. This man failed to secure relief from the operation and had a perineal fistula left. He came to Louisville and was operated upon by another surgeon for closure of the fistula, and at that time the bladder was examined without disclosing any stone. The fistula was closed, but the man still failed to secure relief, and continued to have bladder discomfort, with frequent and painful urination until he finally died, and autopsy revealed the presence of more than a dozen small calculi in the diverticulum which was situated right alongside the ureter.

Dr. Sherrill (Closing): This specimen is an unusually pretty one, and I thought it might be of some interest to the society.

I have been interested in trying to find some means whereby we might correct the alkalinity of the urine and get rid of some of the infection before operation, but I have never succeeded in benefitting these patients very much prior to operation. I have succeeded in lessening the pus to some extent, but have never been able to get rid of the alkalinity of the urine in a case already infected. I think this is one thing that should make us urge these patients to come to operation earlier. I believe that, whenever the patient finds it necessary to begin a catheter life, the time for operation has arrived. That is the time when there is the least danger of infection, and all these operations are made much more serious by the presence of an infected bladder. If the operation is done before this occurs, recovery is much more prompt than when the operation is delayed.

The first operation I did for enlarged prostate was by the supra-pubic route, and there was considerable hemorrhage, requiring the bladder to be packed. Later I took up the perineal method, and did a number of operations by that route, and afterwards drifted back to the super-pubic route. I prefer the latter because, while the primary mortality is undoubtedly higher, the end results are better than by the perineal route. The chief thing to do to prevent the formation of fistula is to remove all of the prostate gland. If a portion of it, especially the central portion, is left in situ, the patient will almost certainly have further trouble on account of retention.

PELLAGRA.

By I. S. MANNING, MANCHESTER.

(Report of a Case.)

Wm. B., colored, male, married, native of Southeastern Kentucky, age about fifty, has been reared on a farm and done farm labor nearly all his life; but for three years past has engaged in coal mining, last year or two in Knox county, Kentucky. He had treatment in Barbourville jail and by local physicians prior to calling on me, June 1, 1910.

He gave history of persistent indigestion, diarrhea and extreme weakness. When first seen his mental condition was such as to amount almost to imbecility. He could give no connected account of himself except strong appetite and continuous diarrhoea. No bloody stools, no indication or history of syphilis. Accelerated pulse, cool skin, moist, coated tongue, congested fauces, extreme nervousness. He looked a sick man. Having known patient in former years, I thought his mental condition might be due to worries and domestic infelicities, of which he had had full share. I feared his symptoms spelled paranoïa.

In subsequent examination I noticed that he walked with a shambling gait, as though his feet hurt him, and that he was picking

kodak snap shots were taken. Subsequently he was confined to his bed and gave much trouble to his nurses; indifferent to his discharges, and died August —.

In my best judgment, the diet and environment of this case was little different from that of hundreds of other colored persons in Southeastern Kentucky. While he might have occasionally eaten bread made from



at his hands with his fingers. Later on the cuticle on back of hands turned black; the skin cracked and sealed up, and pus oozed through broken skin. In August his face was discolored and scaly; mouth sore; saliva dribbling; extreme weakness; backs of arms, hands, feet and legs covered with patches of dark, lifeless skin with pus oozing between the patches. In this state he was seen by Drs. Burchell and Morris, both of Clay county, Kentucky. At this time these imperfect

musty meal or flour, this only occasionally, and no more frequently than the majority of his race. Cornmeal bread is staple in Southeastern Kentucky. It is generally of excellent quality, and is the main dependence for many whites as well as all the blacks. There can be no doubt that bread made of good corn meal is wholesome and highly nutritious. Many live on it to the entire exclusion of flour bread, even prefer it. If corn meal was an etiological factor in this case, there are a few million more cases in stage of incubation.

Blood Findings in Exophthalmic Goiter.—Carotabulates the findings in 14 typical cases, in 20 others with a suggestion of exophthalmic goiter, in 6 patients with goiter alone, in 1 patient years after recovery from exophthalmic goiter, and in 5 cases in which thyroid treatment was being taken for obesity or myxedema. The pronounced cases of exophthalmic goiter were distinguished by a reduction of the polynuclear leucocytes, as much as 50 per cent., and a corresponding increase in the mononuclear leucocytes with predominance of the small lymphocytes.—Berliner Klinische Wochenschrift.

DEPARTMENT OF MENTAL AND NERVOUS DISEASES.

By JNO. J. MOREN, LOUISVILLE.

THE PRESENT STATUS OF THE TREATMENT OF EXOPHTHALMIC GOITER. (*Boston Med. & Surg. Journal.*)

Jackson and Eastman say the medical treatment of exophthalmic goiter may be expressed as the treatment of myocarditis. The etiology of the myocarditis is disputed; overwork through pressure on the vagus, toxic action of the thyroid secretion and nervous stimulation, each have their advocates.

Treatment of this condition requires absolute rest, mental and physical. The regular heart tonics do but little, if any, good. The best results were obtained by the administration of the neutral hydrobromide of quinine; the acid salt does not give the same results. It is given in five-grain doses three and four times a day. In one to two weeks the patient notices that the palpitation, tremor, sweating and other nervous symptoms are better. In some the goiter lessens but the exophthalmus is the last to leave. The quinine is continued for several months and can be used for two years. Some notice the tinnitus very soon and others do not. After improvement the drug should not be stopped but lessened to two or three capsules each week. The effect of this drug is attributed to its action upon the sympathetic system. In 56 cases they report only 11 per cent failures.

They consider the X-ray a useful adjunct to other treatment. If no improvement is noted after three months' medical treatment, operation is advised, preferably ligation of vessels. If this fails, resort to partial thyroidectomy. In large goiters they advise removal of the largest lobe and treat the remainder by X-ray and drugs.

Jackson thinks this is one disease where the surgeon and medical man should work together and feel that many cases could be saved time and suffering if referred to the surgeon earlier. While he admits that 25 to 50 per cent of the cases will get well without much treatment, others are better treated by surgery.

METHODS OF TREATMENT IN INFANTILE PARALYSIS. (*Boston Medical Journal*), Bradford, Lovett, etc

This is from the orthopedic department of Harvard Medical School. After giving a brief history, cause, symptoms and diagnosis, they proceed to give in detail the treatment. Three stages are given, (1) the early stage of acute onset and fever; (2) subacute, and

(3) the stage of established paralysis and convalescence. The duration of the first stage varies and calls for the treatment of febrile attacks, mild cathartics and rest. The rest is insisted upon even though there is no delirium or sensitiveness about the affected limb. If needed, the antipyretics and analgesics are used. Urotropin is advised as an internal antiseptic. Stimulants such as strychnine are to be avoided and also electricity and hydrotherapeutic measures, as they are of little use and liable to disturb the rest. Lumbar puncture is not advisable as a diagnostic or therapeutic measure.

The second stage extends to the period when all sensitiveness has disappeared from the affected limb, three to four weeks. At this time one should guard against over-stretching the paralyzed muscle, either from pressure of bed clothes, position of decubitus, force of gravity, or the unantagonized pull of the sound muscles. Pillows, sandbags and cradles for the bed clothes are advised and splints and weights are rarely needed. Heat or mild massage may be used in this stage for pain. Drugs are to be used with much discretion in this stage.

The demands in the third stage are: Prevention of deformity and the regaining of nerve and muscle power. For the former suitable apparatus is needed to avoid the over-stretching of the muscle and permanency of the deformities.

It is regretted that so many think that permanent improvement will occur in the first few months of convalescence, as it is possible to gain a return of power only after a long period of time. They advise electricity, high heat, physical therapy and muscle training. They regard nerve grafting as still in the experimental stage.

The author gives descriptions and illustrations of the various apparatus that are used for the correction and prevention of deformities, those used in bed and for walking, but justice cannot be done them in an abstract. Those interested will be repaid by reading the entire article.

THE QUESTION OF HYSTERICAL FEVER.

Levison (*Medical Record*.)

"The attention of the writer was attracted, particularly to the subject of hysterical fever in its relation to tuberculin reactions. It is often necessary to explain minutely the possibilities and features of a tuberculin reaction to patients before the injection is made. This matter is of real importance in dealing with nervous or hysterical individuals and phthisiophobias. The constitutional symptoms and accentuations of physical signs

in certain reactions may be poorly developed and reliance may have to be placed in large part on the temperature curve. If fever can be produced by suggestion, emotional influences, or anticipation as recorded above, then the interpretation of tuberculin reactions should be carefully made. Out of a large series of diagnostic injections of tuberculin given by the writer, there have been a number in which the fever was the only discernible evidence of a positive reaction. However, not any of these have been considered hysterical, even in the presence of marked neuroses. The case of Fürst is much quoted in this connection. His patient was a man of twenty-nine with a negative hereditary history. Six months before, there had been a fall, resulting in the fracture of five or six ribs. Since that time, the patient had pain, cough, expectoration with bacilli, and inability to work. A light diffuse catarrh was determined and the usual temperature was 100.4° F. Following an injection of 0.5 mg. old tuberculin, there was a temperature of 101.3° F. with peculiar associated symptoms (*Nebenerscheinungen*.) An injection of distilled water was given and the temperature recorded as 100.6° F. (38.1° C.) with the same symptoms. Three further injections of water were given, and each time the temperature became lower, and the last time, normal. This clinical observation was made ten years ago when tuberculin diagnosis was young. Such fractional variations in temperature hardly justify any conclusions, but, nevertheless, this case has gone the rounds, as a warning to diagnosticians to beware of an hysterical reaction to tuberculin. To summarize, it may be stated:

"1. That the earlier reports on hysterical fever are unreliable.

"2. The larger number of case reports are faulty, in that the differential diagnosis from tuberculosis, malaria, typhoid, meningitis, peritonitis, and other infections, have been insufficiently considered.

"3. The Latin races have furnished the greater number of cases.

"4. Most cases have been young women.

"5. Medical opinion is divided on the question of hysterical fever.

"6. The case reports of fever reaching an unusually high point may be set down as clever deceptions.

"7. The fever has been more often variable in the highest degree, without definite relation to pulse and respiration.

"8. The temperature has been found at times unequal on the two halves of the body.

"9. Medical writers of high repute have reported elevations of temperature from psychic influences only, as suggestion or hypnot-

ism. This seems to stamp hysterical fever as genuine."

EPILEPSY.

(*British Medical Journal*.)

Turner divides epilepsy into four divisions:

1. Organic.
2. Early (occurring in infancy.)
3. Late.
4. Idiopathic.

This classification serves well to separate the symptomatic epilepsy from the genuine idiopathic or true epilepsy.

As a predisposing cause he places ancestral epilepsy as the most important (37.5 per cent in 890 cases.) It is interesting to note the importance of alcohol. In France it is considered a predisposing cause in 58 per cent of the cases; Germany, 22 per cent; America, 14 per cent; England, 4 per cent. According to Turner the leading predisposing causes are: In France, alcohol; Germany, insanity; America, ancestral epilepsy; England, ancestral epilepsy. He considers the exciting causes, but believes that epilepsy is dependent upon hereditary predisposition.

Treatment. Turner regards the bromides as the best drug. While it fails in 50 per cent of cases, the remainder are either permanently benefited or greatly relieved in the number and severity of the attacks. He discourages large doses and if no results are noted from 45-90 grains a day, some other drug should be used. He prefers the sodium salt and regards the strontium as the least serviceable. He adds digitalis when the circulation is weak and glycerophosphates when nutrition is low.

Turner has used Gelineau's formula of bromide, pierotoxin and arsenate of antimony (Bromide of potash 1 gram, Pierotoxin 1-3 mg., antimony arsenate 1-2 mg.) This is given after meals for one week, then one four times a day for a week. He has found that not more than six a day are needed to affect the attacks in those cases that refuse to respond to the bromide treatment.

Turner believes that the bromides should be continued for some time after the attacks have been controlled. Those cases that take the bromides well could afford to continue taking them indefinitely. He cautions against sudden withdrawal of the medicine.

RECURRENT MOTOR PARALYSIS IN MIGRAINE.

(*British Medical Journal*.)

Headache resembling true migraine is often seen in structural lesions of the brain, but the motor symptoms can usually be accounted for by the destruction of nerve tis-

sue. In true migraine, the attack is often ushered in by aura, as aphasia, hemiopia, etc. Being a sensory nerve disturbance, motor symptoms are rare; however, many cases have been reported that showed temporary paresis or paralysis of one of the motor cranial nerves. Cases have been reported where this aura has remained permanent after the attack, but the post-mortem showed obstruction of an artery. Clarke reports six cases in which there occurred hemiplegia during the attack of migraine. He studied the family history and found that these attacks had occurred in four generations and seventeen individuals. No permanent symptoms had occurred in any of the cases. The history in each case that he saw included all the signs and symptoms of a true case of migraine.

Unilateral Laryngeal Paralysis.—Ferarro reports a case of what he calls the Longhi-Avellis syndrome in a farmer of 59. There was first abducent paralysis and paralysis of the velum, lasting for about five years with no other symptoms except occasional dizziness, until an intense headache was followed by complete paralysis of the face and shoulder and vocal cord on this side. He compares this case with those on record, explaining the disturbances as the result of a toxic infectious neuritis of the branches of the spinal nerve involved, gradually extending backward to the nucleus.

Early Operative Treatment of Tubercular Lesions in the Spine.—Sabella reports excellent results from laminectomy and resection of the diseased spinous process in a man of 47 with six healthy children. For six or seven years he had noticed occasional pains in the lumbar region and then they became so intense that he was confined to bed. Tuberculin tests were negative or dubious and no benefit was derived from medical measures but the operation relieved him from pain and insufficiency of the sphincters which had developed from compression. The cure has been complete for the six months since. The tuberculin process was restricted to a single spinous process.

Extraperitoneal Cesarean Section Does Not Entail Tendency to Rupture Later.—Lichtenstein makes this assertion on the basis of 2 per-

sonal cases and of 9 that have been reported, in which a subsequent pregnancy and delivery progressed without any tendency to rupture, although labor lasted up to 38 hours in one case. The interval between the pregnancies was only from 10 to 15 months in 6 cases and under 26 months in the others. A longitudinal incision in the center of the cervix seems the best technique, Lichtenstein concludes from this material and theoretical considerations.

THE CLOSE OF THE WELCOME ADDRESS AT TORRENT, JUNE 30, 1910.

By B. D. Cox, CAMPTON.

We've met once more this side the tomb,
This place we most prefer,
To talk of science, art and skill,
You all are welcome here.

From Bluegrass comes our welcome guest,
From mountain sunlight clear,
To eat, to drink, to laugh and talk,
You are all welcome here.

You are welcome to this feast of ours,
You are welcome in the dome,
You are welcome to the best we have,
Just make yourselves at home.

Cool was the morning, chilly the breeze
Though warm at noonday, clear,
A banquet pending for the night,
You are welcome here.

Hay fever patients snuff and sneeze,
With voice rough and queer,
The terrors of this dread disease
Is absent while you are here.

Some physicians like to use
Some wine, ale or beer,
Might make a shortage in your rep,
Yet you are welcome here.

I hope we all may live to meet
In places far and near,
But when we want a good old time
We always come back here.

In the name of everything that's good
Pure, divine and dear,
May the Lord of Glory intercede
And bless us while we are here.

KENTUCKY MEDICAL JOURNAL.

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

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No. 22

EDITORIAL.

A MISCARRIAGE OF JUSTICE.

As if timed to illustrate the necessity for the formation of the Medico-Legal Committee, created at the recent Lexington session, to defend and protect physicians unjustly accused of malpractice, the attention of the profession is called to a most outrageous verdict in the Marion Circuit Court against Dr. R. C. McChord for \$3,000 damages. Had such a verdict been handed down by an obscure court presided over by an inexperienced jurist it would have been bad enough; that such a thing were possible in a court conducted by one of Kentucky's most distinguished judges is a reflection upon the *status presens* of the law as well as upon the intelligence of the average jury.

A recital of the facts is illuminating. The patient, a young man, while carrying a pistol in his pocket, in violation of law, shot himself, the ball passing through the popliteal space and lodging crosswise in the calf of the leg, where it still is. Following the shot, there gradually developed some stiffening of the leg and the formation of a popliteal aneurism about the size of an egg. This was some years in developing. In order to shield the aneurism, patient flexed his knee and extended the foot, thus making a trophic disturbance of the nerves supplying the gluteus and gastrocnemius which it is now evident was developing synchronously with the aneurism. Dr. McChord did the tenth successful Matas' restorative endoaneurism orrhaphy on this case. That it was successful is shown by absolutely synchronous pulse in arteries of leg. The introduction of the last stitch was quite difficult, and several needles were broken before it was successfully tied. Pieces of all these were recovered but one—the distal portion of a medium, full

curved Hagedorn. This could not be recovered without considerable further manipulation of the repaired artery, at imminent risk not only to the patient's leg but to his life as well. As the portion of needle remaining could do no possible permanent damage and was bound to come to the surface and as an attempt at its discovery and removal, which is a most difficult matter in itself, would endanger the life and limb of his patient, Dr. McChord took the only wise course, which any surgeon of ordinary prudence could have taken, and closed the incision. Some eighteen months later the needle came to the surface at the upper edge of the wound and was removed. The permanent injury, evidently from the traumatism of the gunshot wound, could not have been caused by the needle, and, indeed, was far less than might have been expected from cicatricial contractures and nerve degenerations from a gunshot wound at close range coupled with the constant irritation of a ball—probably encysted—in the neighborhood of the nerves or on the muscular fibres themselves. In addition the injury is a remedial one, as a tenotomy and subsequent massage, with use, would correct the equinus deformity and the atrophy consequent upon non-use, which is as great, of course, in this patient above as below the site of injury.

We have presented this case in considerable detail that our readers might know the extent of the injustice done Dr. McChord by the action of the jury. It is earnestly hoped that this may be corrected by action of the courts.

This case was conducted for Dr. McChord by two of the most distinguished and conscientious lawyers in Kentucky. However, they had not had previous experience in the bewildering technicalities which make the case of the defendant doctor so difficult. No such trouble can come to a reputable Kentuc-

ky physician hereafter, thanks to the action of our State Association, in which he will not have the active counsel and advice of our permanent medico-legal committee and the assistance of our general counsel whose intimate knowledge of the intricacies of this particular branch of law will be of the utmost service.

PHYSICIANS' INCOMES—UNIFORM FEES.

A very important reason for the smallness of the average doctor's income is the smallness of the average fee charged for his work. A very important obstacle to the raising of the fee is the mistaken doctrine widely held by the profession that physicians' charges should be uniform. We have foolishly taught the people the same error. That medical services are of equal value, no matter by whom rendered or how, is an utterly false assumption of which we in the profession are more guilty than the laity.

The nature of the service required, the ability of the physician to meet that requirement and the diligence with which he applies that ability are the determining factors in fixing a right charge. The proper fee thus determined may have to be readjusted to the limited ability of the patient to pay.

To maintain the doctrine of uniform fees in practice requires that the able, educated, trained, diligent and skillful doctor take his chances with the unfit, ignorant, untrained, indifferent, lazy and unskillful one. The public lacking adequate means of judging their relative worth chooses indifferently, and the uniform fee gravitates to the cheap doctor's level.

The average human being does not distinguish with any clearness between getting an article cheap and getting a cheap article. This is generally true with reference to ordinary things in which all are supposed to be fairly equipped for judgment. It is vastly more true when the subject for judgment is of the higher order, as the choosing of a physician. The inability of the public to judge the value of a medical service or the relative ability of different physicians to render a required service brings the good doctor into disastrous competition with the poor one.

The cheap doctor is almost always a poor doctor. Rarely does it occur that a physician doing really good work will voluntarily cut fees with a selfish desire to enlarge his clientele at the expense of other practitioners. The cheap doctor is often the product of a cheap college. He has not properly learned the science in the schools and has not mastered his art in practice. By reason of his meager equipment he is unable to render the highest

grade of service and sometimes is not worth even a cheap doctor's price. If the public knew the difference in value of medical service, the rivalry between the good doctor and the inefficient one would cease. It is another case where publicity would correct the evil.

But all the traditions of our profession are opposed to publicity. Naturally, the good doctor cannot blazon forth his worth in the newspapers. Much less can he assert the lesser worth of another, even in private. But if the customary fees in any community are too low, the better class of physicians can, by mutual agreement, establish a higher standard of fees for themselves. If the good men generally adhere to the new standard, the doctors who continue to serve at the old rate, by that very act, brand themselves publicly as of less worth, and the public will soon accept the relative valuation thus established.

W. W. A.

LIFE.

"One life; a little gleam of time between two eternities; no second chance for us forever more."

It has been described as a "beautiful and winding lane, on either side bright flowers, beautiful butterflies and tempting fruits, which we scarcely pause to admire and taste, so eager are we to hasten to an opening which we imagine will be more beautiful still. But by degrees, as we advance, the trees grow bleak, the flowers and butterflies fail, the fruits disappear and we find we have arrived—to reach a desert waste." Voltaire wrote, "We never live; we are always in the expectation of living." By an Arabic proverb, "Life is a wish, a dream." Richter wrote, "Our life is like Alpine Countries, where winter is found by the side of summer, and where it is but a step from garden to glacier." The normal human mind turns from these sordid views to sentiments like these: "Life is a quarry out of which we are to mold and chisel a complete character." "Our grand business in life is not to see what lies dimly at a distance, but to do what lies clearly at hand."

"The meaning, the value, the truth of life, can be learned only by an actual performance of its duties." "We live in deeds, not years; in feelings, not in figures on the dial; we should count time by heart throbs. He most lives who thinks most, feels the noblest, acts the best." The greatest results in life are usually attained by simple means, and the exercise of ordinary qualities. These for the most part can be summed up in these two—common sense and perseverance. "The finest lives are those who rank in the common model and with the human race, but without

miracle, without extravagance." "Common sense does not ask an impossible chess-board, but takes the one before it and plays the game." "The longer we dwell on our misfortunes the greater their power to harm us." "It is impossible to live pleasurably without living patiently, honorably and justly; or to live prudently, and honorably and justly without living pleasurably." This much in proem.

"At all times in the United States about 3,000,000 persons are seriously ill, of whom about 500,000 are consumptives. Fully half of this illness is preventable. If we appraise each life lost at only \$1,700, and each year's average earning for adults at only \$700, the economic gain to be obtained from preventing preventable diseases measured in dollars, exceeds one and one-half billions. The real cost can only be expressed in terms of human misery.

"Contrary to common impression, there is no iron law of mortality." Fifteen years at least could be at once added to the average human life-time by applying the Science of Preventing Diseases. If this generation should demand of those in authority a settlement for what is due them for the possible added (15) fifteen years of human life-time on the basis of the foregoing paragraph all former war debts and war indemnity and the cost of building of the Panama Canal would pale into insignificance compared therewith.

So far as we can compare vital and physical assets as measured by earning power, the vital assets are three to five times the physical. A comparison of the amount of the public fund expended for protection against mining accidents, forest fires, floods and other destroyers of physical assets with the amount applied to the prevention of diseases and conserving of vital assets, reveals the MOST GIGANTIC INCONSISTENCY ON A BUSINESS BASIS THAT CONFRONTS US TO-DAY.

The facts and figures in these statements are from Senate Document No. 419, 61st Congress. During this year they and many others of similar importance have pereolated our medical literature. We would not be of those who would say, "With so many thousand joys is it not black ingratitude to call the world a place of sorrow and torment?" On the other hand, we see in this intelligent and systematic study and the revelation made thereby the dawn of a better day. "Is not the life more than meat and the body more than raiment?" "Life, like war, is a series of mistakes, and he is not the best Christian nor the best general who makes fewest false steps. Poor mediocrity may secure that; but he is best who wins the most splendid victor-

ies by the retrieval of mistakes." Franklin said, "I would engage to run again from beginning to end, the same career of life, all I would ask should be the privilege of author to correct in a second edition certain errors of the first." And so may the near future see splendid victories in the conserving of our vital resources won in the retrieval of past mistakes. May the next edition of vital legislation have eliminated the errors of former copies. D. O. H.

SCIENTIFIC EDITORIALS.

FACE PRESENTATIONS.

The infrequency of these presentations makes it impossible for an individual to base an opinion upon his personal conduct in such cases. The writer has had three face presentations in an experience of 15 years, the text book statistics vary from 1 in 250 to 1 in 500. Edgar's personal average is 1 in 440 cases. The following, therefore, is based upon personal experience and a careful scrutiny of the literature upon the subject.

In considering the etiology of these presentations, one must bear in mind the conditions that result in the engagement of the vertex at the superior strait. It may be inferred that in all cases, before labor, the occipito-mental, the longest diameter of the head, is in relation with one of the oblique diameters of the superior strait.

Under normal circumstances, when labor pains begin, the greater part of the force is directed to the occipital end of the base of the cranium, because, as is well known, the articulation between the spine and the head is behind the center of the base of the skull. This, with the additional fact that the longer anterior portion of the top of the skull meets with more resistance than the shorter posterior by the soft tissues at the entrance to the pelvis, results in the chin being pushed more and more towards the sternum of the child, one smaller diameter after the other gradually taking the place of the long occipito-mental, until finally complete flexion is attained and the occipito descends.

Exactly the opposite condition must prevail to produce a face presentation. It may rarely be in the nature of something on the neck of the child, a tumor or several coils of umbilical cord, that interferes with the apposition of the chin to the sternum, but in most instances a moderate contraction of the pelvis or marked obliquity of the uterus will account for the abnormality.

In either instance, the face presentation results from the fact that in consequence of

the obstruction in the contracted pelvis, or the improper direction of the pains in the excessive obliquity, the vertex becomes fixed at the brim of the pelvis and the force of the labor pains is directed to the anterior surface of the head, and the face, instead of the occiput, descends.

As the condition then is the result of labor, the instances should be few in which abdominal palpation would early disclose the condition. Only after labor has advanced and produced the condition, would it be possible by abdominal palpation to map out at the symphysis pubis and higher up, the marked prominence of the occipital end of the head on one side and the deep sulcus between the head and the breech, due to the convexity of the back, and on the opposite side, the prominence of the abdomen and fetal small parts. The auscultation of the fetal heart over the anterior surface of the child's body because the most accessible, serves as an additional point in diagnosis.

In most instances, however, in consequence of its rarity, the obstetrician will be caught unawares and will first arrive at his conclusions because of an unsatisfactory vaginal examination in the early stage of labor. He will be confronted with a patient who is making slow progress in spite of good labor pains, the presenting part will be high up on vaginal examination, with slow dilation of the cervix and an unusual contour of the bag of waters. Later on in labor, after the presenting part has descended into the cavity of the pelvis, he must be a tyro indeed who, upon subsequent examinations, does not realize that he is confronted with an abnormal presentation and the only doubt that could exist should be if abdominal palpation has not already definitely settled the matter as to whether he is dealing with a breech or a face presentation.

It should require but little skill to make this differentiation. A breech presentation that has been subjected to the number of labor pains that would bring about the amount of dilatation and descent to make it accessible to the examining finger, should also have resulted in a sufficient discharge of meconium to settle the diagnosis and make it unnecessary for the obstetrician to attempt to map out the distinctive features of the face, if such a discharge has not occurred. In most instances so much swelling and edema have occurred in a face presentation when matters have progressed this far, that in the absence of the discharge of meconium further proof that one is dealing with a face presentation, must depend upon recognizing the mouth of the fetus with the gums and tongue by vaginal examination.

A face presentation is an abnormality

which even under the most favorable conditions is attended with great delay and suffering for the mother and a very high mortality for the child. It is stated that it is only justifiable to leave the delivery of a face presentation to nature, if you are dealing with a multipara who gives the history of having had easy labors in her previous deliveries and then only if the chin is anterior and the introduction of the hand into the vagina indicates that there will be no other obstacle to delivery. Even then, the application of the forceps is advised when any delay occurs.

Under all other circumstances, we must decide between manual correction of the presentation, the application of the forceps to the face, and version. Manual correction with the intention of converting the face into a vertex presentation is only advisable in mento-posterior cases, because there we would have the very favorable occipito-anterior if the measure is successful, but it is only fair to assume that an abnormality that would create a mento-posterior, could not so readily be converted into an occipito-anterior and remain so until delivery. In most instances the new condition would revert to the early position under the influence of labor pains unless a high forceps operation had at once supplemented the first maneuver.

In mento-anterior cases such a manual conversion is out of the question, because it would result in the substitution of the equally serious occipito-posterior position.

As to the application of forceps to the face, it requires considerable skill and dexterity to conduct such an operation. It is never advisable in posterior cases and when applied in anterior positions, care must be used that the blades do not grasp the neck of the child. The forceps should be placed far back and inserted high up, so that the tips reach beyond the occiput. Unless so placed, they will slip off very readily when traction is made, with the possibility of serious injury to the face and neck of the child and the soft parts of the mother.

In view of all these difficulties and dangers with the methods cited, it seems but the part of prudence to resort to the last measure, that is podalic version in every case and without waiting to try other means of delivery. In experienced hands, it is safer and freer from danger than high forceps to the converted vertex or even low forceps to the face and it may be resorted to under peculiarly favorable circumstances.

Upon diagnosis of a face presentation let the obstetrician make all preparations, for a version, then let the patient continue in labor as usual so that as much natural dilatation of the cervix may be attained as possible. If

the patient shows signs of exhaustion, if sufficient dilatation has been secured, or if the membranes rupture, then have the patient anesthetized at once, secure further dilatation if necessary, perform version and complete the delivery according to the rules for that procedure. By such means the patient will be relieved from much unnecessary suffering and the physician from long hours of anxiety and a definite plan of delivery will take the place of the tentative and haphazard measures that are apt to be used in this unusual presentation.

EDWARD SPEIDEL.

DIFFICULTIES OF URINATION IN THE MALE.

Normally as urination begins, the vesical orifice dilates and the bladder neck becomes "funnel-shaped," and the contraction of the bladder begins with the longitudinal fibres and those circular ones surrounding its main body. At the neck, every muscle fibre is relaxed. The act is tranquil and free from effort or pain—when this fails there is something wrong.

What is it? Is it due to stricture of the urethra, contracture of the vesical neck or prostatic hypertrophy?

In all three of these conditions, the patient presents himself with a history of frequency of urination, hesitancy of starting the stream, with lack of force and volume; the act is accompanied with much effort and terminates in dribbling.

I. Stricture of the urethra may be met with at all ages, and is readily diagnosed by exploring the urethra with various sizes of the Otis bulbous bougie, or still better, by using the silk-woven bougie-a-boule of Guyon.

II. *Contracture of the Vesical Neck.* Hypertrophy of the prostatic fibres encircling the vesical orifice or prostatism, without hypertrophy. This is a condition so frequently overlooked, and is one of the greatest pitfalls in diagnosis of urinary retention. It never occurs before puberty, and is met with in male adult life from adolescence to old age. In young adult life, the chief and most common etiological factor is a chronic posterior urethritis. With stone in the bladder, the cause may be attributed to the long continual irritation of the stone nagging at the vesical orifice, thereby resulting in a chronic hyperaemia and persistent tenesmus, and causing a thickening of the internal sphincter muscle.

Many times after supra-pubic operations for stone, the surgeon wonders why the urinary symptoms continue. "Because he has

overlooked something"—a contracted vesical neck.

Wishard considers only two indications for a supra-pubic operation for stone.

1. In childhood.

2. In the adult where the stone is so large and so hard that it can't be crushed and delivered through the perineal incision.

Keyes says "Contracture of the vesical neck is so common in later life, that it might almost be ranked with *arcus senilis* and the fibrotic arteries, as one of the evidences of the crystallization of age." The symptoms are slow in developing, as two to five years may intervene between the first difficulty of urination and retention.

Among the earlier symptoms are hesitancy in starting the stream, with lack of force and volume, and terminating in dribbling.

Fuller says "The lesion in these cases of chronic contraction can be compared with that in connection with the *sterno-cleidomastoid* muscle in chronic *torticollis*—it is permanent, rigid and unrelaxable under profound anaesthesia.

Before the advent of the cystoscope, with the retrograde lense, the diagnosis of these cases were differentiated (occasionally) from prostatic hypertrophy by absence of increased urethral length and not sufficient enlargement of the prostate, as ascertained by rectal palpation, to account for the symptoms. And never positively was it diagnosed, until the surgeon slipped his finger through a perineal *boutonniere* incision, and encountered a tight fibrous unyielding ring at the vesical neck; where under normal conditions, the canal should be wide, funnel-shaped and elastic, and slipping his finger on into bladder and not being able to determine just where the urethra ends the bladder begins.

This condition is usually diagnosed by exploring the urethra with a bougie-a-boule and meeting obstruction at the vesical neck—sometimes the meatus is not of sufficient size to admit an instrument large enough to detect this fibrous band. Remember there is no increased urethral length, and rectal palpation does not reveal a tumor of sufficient size to account for the symptoms. The amount of residual urine may vary from minimum residual to 14 or 16 ounces.

Lancet-Clinic (March 27, 1909.) In a discussion on prostatic hypertrophy, the following is quoted as coming from an eminent Cincinnati surgeon: "A patient some weeks ago had passed through the hands of eight or ten physicians, who had diagnosed prostatic hypertrophy. A rectal examination revealed nothing. I was not satisfied, and made a supra-pubic incision, but found no hypertrophied prostate. He had been out at a large hospital for seventeen days, where he

was prepared for its removal, and all believed he had a hypertrophied prostate. Had I not made a supra-pubic incision, I should have been in doubt. As it is, he had no hypertrophy, but an infected bladder."

To-day I sincerely hope this surgeon is a wiser man, and the next time, if in doubt, I would suggest that he call in a skilled cystoscopist who will make the differential diagnosis, with a retrograde lense, at a glance.

Is such a procedure as cystotomy essential for a diagnosis of prostatic hypertrophy? Certainly not.

Within the last two years I have met with five of these cases, and all diagnosed with the cystoscope. Three of the patients were under forty years of age: two without residual, and one with residual amount of eight ounces. Two of the patients were between 50 and 55 years of age, with a residual amount of urine of 14 and 16 ounces respectively. The three younger patients were operated on with recovery. One of the older patients refused operation, and is leading a catheter life. The other submitted himself to operation, but after the obstruction was removed, his bladder was so badly damaged by the long continued over-work that it lacks the muscular tone to empty itself.

In each instance there was no increased urethral length, nor tumor of sufficient size by rectal palpation to account for the symptoms. Four of the patients gave a history of long continued posterior urethritis. In each case the cystoscope showed marked trabeculations (or hypertrophy of muscle fibres) which is indicative of bladder over-work.

III. Prostatic hypertrophy and sclerosis or contracture of the vesical neck, in their symptomatology are almost precisely alike, but almost invariably the patient is over sixty years of age.

The length of the average normal urethra varies between seven and eight inches. In hypertrophy, the prostatic portion is always increased, and there is also some lengthening of the bulbous portion—the urethra, in some instances measuring as much as 14 inches in length. Hence, by this pathological change, there is marked elevation of the vesical orifice, and it is impossible for the bladder to empty itself.

Of all the changes produced in the bladder by enlargement of the prostate, none is of greater importance than the formation of a post-prostatic pouch, which is caused by the combined elevation of the vesical orifice and the descent of the vesical floor. (Deaver.)

This condition is probably more frequently the cause of a large amount of residual urine than a small, pedunculated growth, producing a typical "ball-valve" action and completely obstructing the urethra.

In all cases of prostatic obstruction, the bladder is called upon for extra work; as Mansell Moullin has well said, every effort of the bladder for evacuation only serves to press the urine against the vesical floor, thereby increasing the capacity of the post-prostatic pouch.

Remember, in prostatic hypertrophy there is always increased urethral length, with elevation of the vesical orifice—the direction of the hypertrophy is bladderward, and in many instances rectal palpation will be very deceiving.

CARL LEWIS WHEELER.

UROLOGICAL COLUMNS

OXALURIA.—Maguire, in several papers, published in the *Lancet* and Proceedings of the Royal Society of Medicine, has maintained that calcium oxalate calculi may be dissolved in the urinary passages, by means of acid phosphate of sodium, administered per os. He recommends that the pure salts be given, in solution, in divided doses, in quantities of, from one to two ounces *per diem*, preferably on an empty stomach. He also recommends the same treatment for simple oxaluria and, in proof of his contention, refers to certain clinical cases, in which satisfactory results were obtained.

FORCIBLE DILATATION OF THE KIDNEY PELVIS AS A MEANS OF DIAGNOSIS, G. L. HUNNER, Baltimore. *Surgery, Gynecology and Obstetrics*, May, 1910.

In 28 cases Hunner has used the method devised by Kelly to distinguish especially between gall-bladder, kidney and appendicular conditions. In the knee-chest position, through a Kelly cystoscope, the ureter is slowly distended by means of sterile salt solution, which is colored so as to show whether there is any leakage past the catheter back into the bladder. The patient can then tell whether the pain produced by the procedure is similar to that felt during her usual attacks—similar in situation, character, etc. The amount of fluid injected will also indicate whether the kidney pelvis is abnormally large or not.

Ten cases are reported in detail. Of these, three proved somewhat misleading, a distended gall-bladder with stone in the cystic duct being found at operation. In these cases, however, the kidney was displaced and surrounded by adhesions. The author recommends the method as a harmless and valuable aid in diagnosis.

REMOVAL OF NEOPLASMS OF THE URINARY BLADDER, EDWIN BEER, New York. *Journal*

of the American Medical Association, May, 1910.

In a preliminary report, Beer describes a new method of treating bladder neoplasms, viz., by the high frequency plan, which, he thinks, will be effective in the treatment of intravesical growths. He employs the Oudin current. The spark gap in the muffler was approximately from 1-10 to 1-8 inch. A Nitze double catheter cystoscope was used. In one catheter tunnel he places the electrode, introducing it just as one introduces a catheter, while to the other catheter tunnel he attaches a tube for irrigation. The electrode is a simple six-ply cable of copper wire, thoroughly insulated with rubber and cut off squarely at the vesical end. It measures No. 6 French. The applications were made directly to the growth, the electrode being pushed a short distance in among the villi under the guidance of the eye, and the current turned on for from 15 to 30 seconds at various points. The bladder was distended with distilled water. The immediate effects are striking, no spark is seen even with the full current without any resistance. Gas is freely generated and bubbles out of the growth, and if the point of application is superficial the blanching of the tissues is seen, and at the point where the electrode rested the tissues are blackened. Often as the electrode is withdrawn the tumor comes away firmly baked to its point. Bleeding rarely follows and is readily checked by the reapplication of the current. The rubber melts away from the heat at the end of the electrode which has to be squarely cut off from time to time. Beer credits the well-marked necrosis to the heat, though other factors, ionization, electrolysis, probably contribute, how much he cannot yet say. The treatment caused no more discomfort than an ordinary cystoscopy. The bladder mucosa was but little affected by the application, though some congestion and trigonitis developed in the vicinity of the growth. While he has employed this method in but two cases, both large papillary growths, his experience has been so satisfactory that he recommends it. It suggests the usefulness of these currents in many other conditions, both in the bladder and in other parts, for example, tuberculous ulcers of the bladder, prostatic hypertrophy, growths in the urethra, etc.

Gastric Ulcer at Innsbruck.—Latzel comments on the comparative frequency of hypo-acidity and anacidity with gastric ulcer in his region. The food is mainly a vegetable diet and the ulcers seem to be connected with some mechanical injury of the mucosa and secondary infection with streptococci or staphylococci. Another feature of his cases was the normal or unusually high proportion of antipepsin in the blood serum.

OFFICIAL ANNOUNCEMENTS.

KENTUCKY STATE MEDICAL ASSOCIATION.

Official Report of the Proceedings of the Fifty-fifth Annual Meeting, Held at Lexington, September 27, 28 and 29, 1910.

SEPTEMBER 27—FIRST DAY—MORNING SESSION.

The association met in the auditorium of the Y. M. C. A. at 9 a. m. and was called to order by the President, I. A. Shirley, of Winchester.

Bishop L. W. Burton delivered the following

INVOCATION.

Let us pray. Oh, God, our great Creator, we thank Thee for all healing material Thou hast stored away in nature. We thank Thee for the skill with which Thou hast endowed these men to diagnose and cure disease. We praise Thee through the instrumentalities of a wisely applied science that those ills to which flesh wrongly seemed to be heir, are now prevented as well as cured. But above all, we thank Thee that Thou hast put into the hearts of so many of these, Thy servants, to minister charitably to the needy and to the sick and the sorrowful. Thou knowest, and Thou, Oh, God, alone, does know of all their tenderness and compassion; how, without hope of remuneration in this world, and looking forward to Thine own blessed rewards, they bind up the broken heart and pour balm into the wounded spirit, and heal the sick, and relieve infirmities, and send many on their way rejoicing. And now, we pray Thee, Thou wilt bless these deliberations to the public good as well as to the advance of this profession. Thou knowest, Oh, God, they are the masters of our bodies; but make them reverent towards the temples of the Holy Ghost, so fearfully and wonderfully made. Thou knowest, Oh, God, we must entrust to them those who are closest and dearest to us. We pray Thee that Thou wilt make them earnest and painstaking and thorough. Oh, God, our homes must be open to them, and we pray Thee that Thou wilt give them pure and true and upright characters. Oh, God, they must come face to face with sin and misery in its most aggravated and most naked form; and we pray Thee, dear Lord, that they may know how to rebuke evil and how to warn and counsel. They must stand by the bedside of the dying when perhaps there is no other one to point the way of light. They must meet those who are freshly stricken with disease. They are the only true solace. And now, we beseech Thee, that they

may follow the example of Luke, the beloved physician, of whom it may have been said that his praise was in all the churches; that they may look for their inspiration, for their guidance, and for that help which they often feel the need of in their practice to Thee, the Great Physician, to the One who bore our sicknesses and our sorrows, and who has provided by His atonement for the healing and cure of that sin which is the root of all evil and of all our pains and of all our sorrows, and to Thee shall be the glory through Jesus Christ our Lord. Amen.

After the invocation by Bishop Burton, Hon. Samuel M. Wilson, of Lexington, was introduced and delivered the following

ADDRESS OF WELCOME.

Mr. President and Members of the State Medical Association:

It is my privilege this morning, on behalf of the Lexington and Fayette County Medical Societies, and on behalf of the good people of our city, to extend to you a hearty welcome into our midst. Whether you come from the waters of the Big Sandy, or the confines of the Tennessee, from the everlasting hills of eastern Kentucky, or the evergreen shores of the Ohio, you are one and all welcomed into our "Old Kentucky Home," and, having said that much, gentlemen, perhaps it may be thought that enough has been said; and yet, as a grateful patient to more than one member of your profession, I may be pardoned if on this occasion I seize the opportunity to express a few additional thoughts which have occurred to me. I hope you will not say that this is an audacious undertaking on the part of this layman to come here and, as it were, undertake to "carry coals to Newcastle," and yet I am sure you would think it was an unpardonable oversight on my part if, here on this occasion and in this presence, I did not take the time to remind you that in this city, more than one hundred years ago, were cradled the first efforts toward medical education in the great central valley of the west. The medical department of Transylvania University, under the leadership of Dr. Samuel Brown and Dr. Frederick Ridgely, here began a career of usefulness and a career of glory which was not cut short for more than half a century later. This institution, as you all know, received a fresh impetus of growth when, in 1817, Benjamin Winslow Dudley, the great surgeon of Kentucky, came to be the head of that department, and out of this institution, in less than forty years, there was sent forth almost two thousand graduates. During that period the same departments had registered more than six thousand, five hundred students within

its halls. And yet, gentlemen, there is another thought which comes home to me, and doubtless you will think I am remarkably well informed about the medical educational history of our state; yet it has so happened in recent years, because of the renewed interest taken by the medical profession in this subject, that it has been my privilege to become somewhat more familiar with that subject.

In 1834, let me remind you, before the Lexington Medical Society, Dr. Charles Caldwell, that curious combination of capacity and egotism, delivered an address on "The Impolicy of Multiplying Medical Schools," and yet, within three short years, the doctor moved to Louisville and established a new school there, which in due time became the prolific parent of a numerous progeny. He, with his able associates of the Transylvania faculty, in the course of time established other schools there, and I would not say anything which would detract from the usefulness or standing of those great schools, which have done a remarkable amount of good along their respective lines, and yet of recent years the lesson has been brought home forcibly to all of us that in the multitude of institutions there is sure to come disaster. So, if I may add the moral to this important lesson which has been taught, I would beg of you members of the medical profession, and those laymen who may be interested in the work of your profession, that we all resolve at this meeting and on this occasion to unite as one man in the establishment of a worthy single medical institution which will add glory and fresh renown to the State of Kentucky. (Applause.) It matters not a particle to me as a citizen of Kentucky, where that school is located. Let us bury all local differences. Let us forget all local self-interests, and wherever it shall be deemed best in the judgment of those qualified best to speak that such an institution shall be established, there let it be built. (Applause.)

There is yet another thought, if you will pardon me, that I desire to express along the lines of commercialism in education. We of the legal profession have had the same fight to make, and to-day the contest between those members of the legal profession who desire to preserve and perpetuate that noble calling as a profession, and those members of that calling who are disposed to allow it to degenerate into a mere commercial trade, is still going on, and I want to say to you—I say it with the greatest respect and with the utmost deference—that when within the course of twelve or twenty-four months past it has been possible for articles to appear in periodicals circulated throughout the coun-

try denouncing the "Doctors' Trust" and the "Menace of Medical Monopoly," I say that, without giving credit to a single one of the charges promulgated in these articles, it should serve as a warning against that sort of deterioration in this honorable profession. That brings me to this thought which has been suggested by the attacks on the medical profession, and that is, that the legislation secured through the efforts of your organization ought not to be allowed to tend too much in the direction of business or commercialism. In other words, gentlemen, if I may speak plainly, and I beg you to believe that I do it with the utmost consideration and with due regard for my own shortcomings in discussing the subject, I think it worth your while to endeavor conscientiously to see that such legislation shall not be too strongly tinctured with the commercial idea, and that in the enforcement of such legislation it shall be done honestly, conscientiously and sincerely for the promotion of the public health, and not simply for the advancement of the pecuniary or the business interests of those who are engaged in your profession. (Applause.)

What is the medical profession accomplishing along legislative lines? It seems to me, gentlemen, the doctors are accomplishing more for their profession along strictly professional lines with our legislators than we members of the legal profession are able to accomplish for the lawyers as such.

In the last session of our legislature, from the number of acts passed, it appears that you have succeeded in obtaining an act for the establishment of a Bureau on Vital Statistics. When I have compared the looseness, the indefiniteness, the incompleteness of our records of vital statistics with the careful and complete records preserved in a state like Massachusetts, not for years, but almost for centuries, I have been amazed that from one cause or another our legislative body has not long since provided for such a complete and thorough recording of vital statistics, as is contemplated in this new act. Not only that, you had introduced at the same session of the legislature a bill and obtained a law which creates a fund sufficient for the employment of a state bacteriologist for the investigation of the sources of water supplies throughout our state, and for other efforts along the lines of prevention of sickness and disease, and in the preamble to this act, by whomsoever it was drawn, the historical facts of the achievements of medicine within half a century have been recorded in the definite statement that diseases like tuberculosis, typhoid fever, scarlet fever and others of that character are practically preventable, so that after the lapse of these many years we find

professional men, members of the medical profession, slowly groping their way to the Chinese theory of medicine, that the doctor shall be paid for keeping us well instead of being paid for curing us when we may fall sick.

There is another subject, which is one of some delicacy, and yet I feel I ought not to hesitate to speak of it in this presence. Thirty years ago, in a decision rendered by the Court of Appeals of Kentucky, Judge Hines for that court used this language: "That the child shall be considered in existence from the moment of its conception for the protection of its rights of property, and yet not in existence until four or five months after the inception of its being to the extent that it is a crime to destroy it, presents an anomaly in the law that ought to be provided against by the law-making department of the government." A generation has passed since that sentence was uttered by the highest court of our state, and not until the session of 1910 did our law-making body wipe that stigma from the laws of the state of Kentucky, and I want to say to you here that I trust this profession will put its shoulders behind that new law until every man guilty of the offense of performing a criminal operation shall either be put in the penitentiary or put out of business. (Applause.)

There is yet another thought that comes to me on this occasion, and that is, that the medical profession, on account of its industry and attention to the needs of that profession, has through legislation acquired power which should be measured by a corresponding responsibility. I want you to think of that for a moment. From time immemorial the courts of our land have had the power to discipline or disbar members of the legal profession; to determine that a lawyer who misbehaves or forgets the canons of his profession is not entitled to appear in court. Ordinarily, if a man is indicted, he can have a jury summoned, and his case tried in the usual way, with due deliberation and in accordance with legal forms and safeguards. A lawyer, on the other hand, may, upon information filed by the Commonwealth's attorney, be summarily disbarred for misconduct in his office; and I sometimes think that Judge Paynter, in the decision of *Matthews versus Murphy*, which involved the right of the State Board of Health in disciplining members of the medical profession, went too far when he decided that the law which regulates the power of the board was not valid, because it undertook to give the board power to revoke the licenses of practitioners because of dishonorable or unprofessional conduct. That is the law in regard to the members of

the legal profession, and I see no good reason why such should not be the law in regard to the medical profession.

So, in closing, I beg to remind this honorable body of the great members of this profession in Kentucky, who have dignified and glorified its past. We have only to mention the names of men such as Dudley, Caldwell, Richardson, Overton, Skillman and many others, who added glory and distinction to old Transylvania, and we need not confine ourselves to the city of Lexington or to the local luminaries of your profession. I might mention in this connection Ephriam McDowell, the great Ovariologist of Danville; Doctor Brashear, of Bardstown; Doctor Bradford, of Augusta, and others of ability and character who lent everlasting distinction to your profession in the city of Louisville. And yet, gentlemen, with those men behind such a body as this, I want to say to you that there was never a nobler utterance than that which fell from the lips of the celebrated Dr. Daniel Drake, when he said that he never knew of a great or enduring practice, the foundations of which were not laid in the hearts of the poor. So that to any man who has the audacity to challenge this noble profession for the love of the almighty dollar, for the pursuit of commercialism, I beg of you to say to him that, with the doctors as with the lawyers, it is the ideal of all the centuries that "a man's life consisteth not in the abundance of the things which he possesseth, but in the good which he can do for mankind." (Applause.)

In extending to you an old-fashioned, hearty, Kentucky welcome, I was about to say, in the accustomed phrase, that we would turn over the keys of our city to you, but I happen to remember that you must all wear somewhere *skeleton* keys, with which you can open not only the doors to our homes, but the entrances to our hearts. Gentlemen, I trust you will not work too hard. I know this is a scientific session, but do not forget that all work and no play makes Jack a very dull boy, and when you get through the formal labors of this gathering, I trust you will give us an opportunity to show you a royal good time. Gentlemen, I heartily welcome you to Lexington. (Long and prolonged applause.)

RESPONSE TO THE ADDRESS OF WELCOME, BY
D. M. GRIFFITH, OWENSBORO.

Mr. President, Judge Wilson and Members of the Association:

Agreeable to our inclinations, we are assembled again in your historic city, and our presence attests our appreciation of that honor. As for myself, I am here in spite of the

opposition of much misfortune. A wreck on the road caused me to miss the train out of Louisville, and I did as every dutiful doctor of Kentucky would have done, caught the traction to Shelbyville and from there made a midnight drive and I am here without food or sleep and must therefore ask your indulgence if I seem a bit the worse for wear.

Judge Wilson, even if the subsequent hospitality of this meeting was lacking both in quantity and quality, we would be less than Kentuckians if we still were not glad that we are here after hearing your exquisitely expressed words of welcome, following which I assure you it is with pleasure but exceeding modesty that I act as spokesman for the visiting members of my profession. For those of the Mountains, Knobs, Beargrass, Purchase and Pennyrite, I wish to express our deep appreciation of this royal greeting. By this splendid welcome to this society and its guests you have cast this day a ringing vote for this as our new State motto:

United we stand,
Divided we fall,
And a hospitable hand
We extend to all.

That God could have made better hosts than bluegrass Kentuckians there is no doubt, but he never did. We of the other sections of the state are close rivals for this honor, and, indeed, your equals in the sincerity of our welcome; but we are handicapped in that the Almighty did not place us in this earthly Paradise. Like the Athenians of antiquity, you of the present period are rich in God's mercies. Nature's smile is on your land in lines and hues so exquisitely commingled as to compare favorably with that country "Where burning Sappho loved and sung."

Upon your pastures of the wavy bluegrass graze the fleet and perfectly-formed thoroughbred, superb animals that would have made Richard III. in a moment of safety exclaim "My kingdom for one of these."

From your corn which "tops the brightest" you distill that elixir of life which poor Ponce de Leon sought for in vain, but which has so often buoyed the spirits of disconsolate Kentuckians.

From the golden Burley leaf you give us the hazy-blue smoke whose fantastic curves sooth, like a magical balm, the troubles of to-day and reveal bright visions of tomorrow. The matrons and belles of your homes are a race of goddesses worthy of Olympus and too beautiful for a Raphael to paint. (Applause.)

But your land is not a beguiling Capri, which, while pleasing, intoxicates her devotees; rather it inspires them and has given you cel-

ebriety through as brilliant a galaxy of intelligent and immortal men as ever graced the Isles of Greece. "Immortal names that were not born to die." You are justly proud of him who would rather be right than President, the "Mill Boy of the Slashes," that master statesman and party leader, Henry Clay; of that other statesman, the marvelous Meniffee, who, like a meteor, flashed across fame's horizon and, as William Pitt, died all too soon; of that brilliant statesman and intrepid warrior, the incomparable John C. Breckenridge; of that sturdy intellect which stood in the forerank of God's legions, Robert J. Breckenridge; of the mighty Morgan, that American Bayard who, like the French cavalier, was without fear and without blemish; of the eloquent and gifted orator, that modern Demosthenes, Wm. C. P. Breckinridge; of those saintly sons of science, Drake and Dudley, beacon lights in the dark days of our profession; and of that more modern man in medicine, the lamented and lovable Dr. Skillman, who won prestige in the profession and the affection of all because of his genius and personality. (Applause.)

Certainly your cup of happiness runneth over, and a people so felicitous must necessarily out of the fullness of their hearts, most gracefully extend greetings to their less fortunate fellowman. And for us to receive this cordial welcome here, where the landscape is as enchanting as was the garden of Daphne to Ben Hur; to admire your fascinating women; to associate with your strong, able men of such a rich legacy to fame; and to worship at the shrine hallowed by your great dead, is indeed a joy and privilege worthy the proudest profession.

But we come bearing our burdens, freighted as they are with the cargo of afflicted humanity, not merely with the desire for pleasure, but also with a care and consideration of the serious and scientific side of life, hoping thereby to secure for our fellowmen a prevention as well as a cure of their disease. And, therefore, Mr. President, my pride in our noble profession and my ambition for its future turns my eyes to the ideal doctor, that zenith of fame, which will only be obtained when, by the torchlight of a higher civilization, we shall be able to cast off the ignoble passions that entangle us to-day. And in order to inspire us and our professional posterity, I wish to hold before you this alluring picture of the future doctor.

He shall be an athletic being, one who enjoys the breath of life and whose blood runs warm, but still master of himself, believing that to conquer self is greater than to build an empire. He shall know the abysmal difference between liberty and license, and shall ever be appreciative of the trust God

has given him. His virtue shall not be a "cloistered and fugitive one, unexercised and unbreathed," but an untarnished shield ever brightened by frequent intercourse with mankind. He shall love to do his duty, thus more nearly conforming to the Golden Rule than any man and proving Cicero's assertion that, should all men live likewise, we would need no laws. Like Nathan Hale, he shall regret having but one life to give to his cause; and, like Don Quixote, he shall love humanity, but he shall point his lance toward the real and overwhelming hosts of disease. His thoughts shall be like the clear waters of a spring, surprisingly deep. A judgment as accurate as William Tell's arrow shall secure him against such severe criticisms as Moliere's caustic satire. With a piercing inner sight he shall read the cause of disease, and with consummate skill relieve and prevent suffering. He shall always be affable and cheerful, and his smile shall be to the sick and feeble as sunshine to the flowers. And finally, after he shall have lived such a life, and although his earthly harvest be as scanty as that of Millett's "Gleaners," he shall be able to repeat, in St. Paul's words, "I have fought a good fight, I have finished my course, I have kept the faith." And passing beyond, he shall enjoy an immortality not limited to the annals of history or mortal's faulty memory, but infinite as space and as beautiful as are Kipling's prophetic verses:

"When earth's last picture is painted
And the tubes are twisted and dried,
When the oldest colors have faded
And the youngest critic has died—
We shall rest, and faith we shall need it.
Lie down for an aeon or two,
Till the Master of all good workmen
Shall put us to work anew..

"And only the Master shall praise us,
And only the Master shall blame,
And no one shall work for money,
And no one shall work for fame.
But each for the joy of working,
And each in his separate star
Shall paint the thing as he sees it
For the God of Things as They Are."

(Loud applause.)

The President-elect, Joseph E. Wells, of Cynthiana, delivered his address. He selected for his subject "Preventive Medicine."

On motion of William H. Wathen, a rising vote of thanks was extended to Dr. Wells for his admirable and interesting address.

Dr. Shirley, the retiring President, in introducing his successor, said: "And now, my fellows, comes the most important part of my administration, namely, surrendering

to my distinguished successor the reins of office. Before I do so, however, I want to again thank you sincerely for the exalted honor conferred when you entrusted to me a position made illustrious and memorable by the many brilliant lights who have preceded me. By our indulgence and ever-ready assistance, the duties have been anything but burdensome, and the labor one of love instead of toil. And I assure you the gentleman who is on the threshold of high office will be called upon to preside over the most dignified as well as the best-looking body of boys, young, middle-aged and old, to be found on this side of the great White Throne; and that all he will have to do will be to treat them but half right, and they will treat him altogether right. With much pleasure, I hand to you, sir, this insignia of office, knowing full well that you will prove equal to every emergency. Allow me to introduce to you, my fellows, President Joseph E. Wells, of Cynthiana." (Applause.)

At the conclusion of Dr. Shirley's remarks, President Wells said:

"I accept this gavel and this badge with mingled feelings of gratitude, diffidence and embarrassment; gratitude for the confidence which my election suggested; diffidence and embarrassment because I doubt my ability to meet the expectations which the position involves. When I recall the names of the men, illustrious predecessors, who have filled this place, I feel I cannot follow at a long distance. I feel hesitancy in attempting to fulfill the duties incident to the position to which you have elected me. When I remember the willing assistance you have given your presiding officer, I take heart and will enter upon my work, not with entire confidence, but with the hope of modest success, strengthened with the belief that you will accord to me more than accustomed courtesy and forbearance. With your assistance, to which I confidently appeal, I will strive to do the best I can to serve you faithfully and impartially." (Applause.)

On motion, Dr. I. S. Stone, of Washington, D. C., was made a guest and invited to participate in the discussions.

The next order was the symposium on "The Diagnostic Significance of Headaches."

Papers were presented as follows: 1—"Diagnostic Significance of Headaches to the Internist," by J. W. Kincaid, Cattlesburg.

2—"Diagnostic Significance of Headaches to the Surgeon," by A. D. Willmoth, Louisville.

3—"Diagnostic Significance of Headaches to the Specialist in Eye, Ear, Nose and Throat," by M. C. Dunn, Henderson.

The symposium was discussed by Drs. Grif-

fith, Kiser, Clark, Pope, Moren and Stucky.

D. M. Griffith, of Owensboro, was delegated by President Wells to escort Dr. Frank Billings, of Chicago, to the platform.

In introducing Dr. Billings, Dr. Griffith said:

"I am delegated by the President to present to you the Association's guest, one who has come from afar, crossed the great divide and entered our sovereign state of Kentucky, and for fear he may fall a victim to the wily ways of the bluegrass hosts, I wish to apprise him of the wonderful welcome that he is to receive at the hands of these princely entertainers. Dr. Billings, they will reveal to you beauties and extend to you a hospitality not to be equaled beyond the boundary of the famous bluegrass region.

"They will show you women wondrously fair,
Whose beauty you will say is beyond compare
They will show you the steed whose speed is
a wonder,

And you will promptly exclaim, by thunder!
Like the King divine, I wish they were mine.
And though you may be in the land of peace
and plenty,

They will extend not the divine welcome of
milk and honey,

They will bruise the mint, and you will feel
so funny

You won't care a threepence for medicine or
money.

"Gentlemen, I present to you America's most distinguished clinician, Dr. Frank Billings, of Chicago."

Dr. Billings thanked the members for their invitation to be present, and said it was a pleasure to meet the members of the Kentucky State Medical Association.

F. H. Montgomery, of Danville, read a paper entitled "Present Status of Serum Therapy."

Discussed by Drs. Marks and Mastin.

George A. Hendon, of Louisville, delivered the Address in Surgery. He selected for his subject "Abdominal Crises Caused by Pathological Changes in Meckel's Diverticulum Other Than Those of Strangulation by Band."

On motion of W. W. Anderson, a rising vote of thanks was extended to Dr. Hendon for his excellent address.

F. H. Clark, Chairman of the Local Committee of Arrangements, stated that after the address by Frank Billings, of Chicago, in the evening, the Fayette County Medical Society invited the members of the Association and their guests to the Hippodrome Theatre, and that immediately after the address in medicine on Wednesday, the Association is invited by Mr. and Mrs. Hagin to visit Elmendorf Farm.

On motion, the Association adjourned until 2 p. m.

FIRST DAY.—AFTERNOON SESSION.

The Association reassembled at 2:15 p. m., and was called to order by the President.

Dr. Cressy L. Wilbur, Chief Statistician Bureau of Census, Washington, D. C., read a paper entitled "The Physician's Interest in Vital Statistics."

The paper was discussed by Drs. Heizer, Richmond and Byrne.

Drs. Mathews and Barkley were appointed as a committee to escort Drs. Daniel N. Eisen-drath, Chicago, and B. M. Ricketts, Cincinnati, to the platform.

On motion, these gentlemen were made guests of the Association and invited to participate in the discussions.

J. N. McCormack, Bowling Green, read a paper entitled "The Necessity for Properly Selected and Compensated City and County Health Officers."

The paper was discussed by Drs. Mathews, Carpenter, Anderson, Smock and Richmond.

Dr. Mathews moved that Dr. McCormack be requested to have his paper published in full in every paper in the State of Kentucky.

The motion was seconded by several and carried.

Dr. Sherrill moved that the remarks of Dr. Mathews in discussing Dr. McCormack's paper be added to the paper.

Seconded and carried.

At this juncture, Mr. Elliot of the Russell Sage Foundation, addressed the Association. He said:

"Mr. President and Gentlemen: After Dr. Mathews' eloquent statement justifying throwing open the social movement upon the public a certain amount of responsibility for the public health, there is perhaps little necessity for me to apologize for my presence here to-day as a layman, for the prevention of blindness movement, registers another of these shifts of responsibility that Dr. Mathews has spoken of. It is a medico-social movement, a co-operative movement between the medical profession and the laity to tackle the causes of blindness which are amenable to social control. If you will pardon me, I will put before you a fanciful idea which has just come to me, but which will bring the matter as I wish it to be brought before you, and I say this in all reverence: If Christ should come to Lexington, entering the city by the station down on Main street, and coming around that curve of asphalt, should meet with a blind man, and the man should appeal to Him to cure his blindness, you all know very well what would happen. People would flock and block the whole street, and a full account of it would come out in the newspapers as soon as possible

and the public press would proclaim this news in a dramatic manner. It would be a miracle. But you know very well, and I cannot tell you better than you know yourselves, that you have it within your power to accomplish as great good as such an act as that would be. You have the means to prevent blindness in a prophylactic which was discovered by Credé in 1882; if its routine use is observed, 10 per cent of the blindness in this country at this day can be prevented. About 35 per cent of the new cases entering the blind schools of this country enter there because of the neglect of some one at the birth of these children.

Now, in my conversation with the physicians in Kentucky and those in Lexington particularly, I have learned that there is a disposition on their part to minimize the importance of the prevalence of infection of children at birth. I want to tell you not to be too sure that there are only a few cases of such infection. In Massachusetts they were resting at ease in this matter, and investigation in seven states showed that 1,000 cases of blindness were due to ophthalmia neonatorum, whereas they had been supposing that there were only two or three cases due to this cause. Instead of 133 cases reported to the Boards of Health, investigation of sociologists revealed the fact that 108 of these cases had been instances of infection at birth. I put this matter before you with some delicacy for enlightenment at this time, in order that you may not imagine the safety you are in.

"There are one or two ways I might suggest to the physicians of the state which may enable them to do effective work individually and collectively in this line. In the first place, individually greater responsibility should be taken in this matter of the routine use of the prophylactic of Credé. It is not so simple a matter as some of you may think it is to let it go, because the cost of educating the children of the state who have become blind in this way is approximately \$3,000, as against a much lesser sum, not more than \$400, for educating the average child. Then, there is the corporate responsibility, which an association of this kind can well take upon itself. In this state there is no law requiring notification of infection at birth by the parties who are responsible within the first ten days of the child after birth. In twelve states there are such laws, although they are not very well enforced: at the same time, they are the only laws upon which we can base our action for the control of ophthalmia neonatorum at present, and I am going to suggest that this Association appoint a committee who shall have charge of framing such a law.

"In closing, I wish to call the attention of this Association to the Society for the Preven-

tion of Blindness, which Dr. Wells mentioned, and which I desire to endorse very heartily. We are much interested in this society in the east because it is the first in the south, and at this time, when we are considering the subject of a vital statistics bill, it is pertinent to call your attention to this matter also.

"We have an exhibit of ophthalmia neonatorum in a room adjoining this hall. The literature on this subject has been printed by the Society for the Prevention of Blindness in Kentucky, and I can say that the county society will be very happy to have you call and get copies of the literature for distribution in the quarters where you come from." (Applause.)

B. E. Giannini, Coalmont, read a paper entitled "Splenis Anemia," which was discussed by Drs. York, McClymonds and Billings.

SYMPOSIUM ON DISEASES OF THE LIVER AND BILE PASSAGES.

Papers were read as follows:

1. "Diagnosis and Treatment of Cirrhosis," by G. W. Payne, Bardwell.
2. "Diagnosis and Treatment of Cholecystitis," by Irvin Abell, Louisville.
3. "Diagnosis and Treatment of Abscess of the Liver," by J. I. Rathburn, Russell.
4. "Differential Diagnosis of Gall-Stones," by W. A. Guthrie, Franklin.

The discussion of this symposium was opened by Dr. Eisendrath and continued by Drs. Sherrill, Wathen, Stone and, in closing, by Dr. Abell.

Curran Pope, of Louisville, read a paper entitled "State Care of the Insane in Kentucky."

Discussed by Drs. York, Sights, Gardner, Funnish, Spragne, Anderson, Willis, Boggess, Clark, Scott and, in closing, by Dr. Pope.

J. N. McCormack moved, as the result of the discussion on Dr. Pope's paper, that the Legislative Committee of the State Association be instructed to confer with the State Board of Control and to approve and support such measures as may be necessary to put the asylums of Kentucky where they belong, and put our brethren in the asylums in the position that our modern knowledge demands.

This motion was seconded by several and carried.

On motion, the Association adjourned until 8 p. m.

SECOND DAY—EVENING SESSION.

The Association reassembled at 8 p. m. and was called to order by the President.

Lewis S. McMurtry, Louisville, introduced Frank Billings, of Chicago, who delivered the annual oration, the title of which was "The

Responsibility of the State in the Care of Its Dependents."

At the conclusion of the oration, William H. Wathen moved that a vote of thanks be extended to Dr. Billings for coming so far and offering wise suggestions of so much value to the unfortunate people of the commonwealth of Kentucky.

This motion was seconded by several and carried.

On motion, the Association adjourned until Wednesday, 9 a. m.

SEPTEMBER 28—SECOND DAY, MORNING SESSION.

The Association met at 9 a. m., and was called to order by the President.

W. E. Senour, Bellevue, read a paper entitled "Present Status of Surgery of the Thoracic Cavity."

Discussed by Drs. Willmoth, John R. Wathen, Dunn, Sherrill and, in closing, by the author of the paper.

On motion of Curran Pope, the courtesies of the floor were extended to A. O. Zwick, Cincinnati, and Roswell T. Pettit, Chicago.

Drs. Pope and Allen were appointed a committee to escort these gentlemen to the platform.

SYMPOSIUM ON SURGERY OF THE SKULL.

Papers were read as follows:

1. "Indications for and Technic of Decompression," by E. S. Allen, Louisville.
2. "Fracture of the Base of the Skull," by D. C. Donan, Jr., Horse Cave.
3. "Intracranial Complications of Middle Ear Disease," by Gaylord C. Hall, Louisville.

Discussed by Drs. Willmoth, Pettit, Pfingst, Coomes and, in closing, by Drs. Donan and Hall.

Mr. Paul Hansen, State Sanitary Engineer, of Bowling Green, read a paper entitled "Water Supply and Sewage Disposal."

At the conclusion of Mr. Hansen's paper, J. N. McCormack said that Mr. Hansen's gratuitous services were at the disposal of any city or town in Kentucky having the question of water supply or sewage disposal to deal with.

Benjamin F. VanMeter, of Lexington, read a paper entitled "Indirect Inguinal Hernia."

D. O. Hancock, of Henderson, delivered the Address in Medicine. He selected for his subject "Something Old and Something New in Medicine."

On motion, the Association adjourned until 3 p. m.

SECOND DAY—AFTERNOON SESSION.

The Association reassembled at 3 p. m. and was called to order by the President.

Mr. Edward J. McDermott, Chairman Committee on Expert Testimony, Kentucky State Bar Association, Louisville, read a paper

entitled "Expert (Medical) Testimony."

At the conclusion of Mr. McDermott's paper, J. N. McCormack said:

"I have been deeply interested in this subject for years, and a member of your committee, and represented you during the last session of the legislature. By the joint efforts of this Association and the Bar Association, a bill similar to the one outlined by Mr. McDermott can be passed. There is not time to enter upon a discussion of this subject, owing to the crowded condition of our program. I move that the cordial thanks of this Association be tendered to Mr. McDermott for his paper and for his active and intelligent interest in this work for years, and that the House of Delegates be requested to continue the committee for the next year to co-operate with a similar committee of the State Bar Association until this cause is successfully prosecuted before the General Assembly."

Seconded and carried unanimously by standing vote.

The next order was the symposium on cancer, and papers were read as follows:

"Cancer of the Breast," by J. T. Reddick, Paducah.

"Cancer of the Uterus," by William H. Wathen, Louisville.

"Cancer of the Gastro-Intestinal Tract," by John H. Blackburn, Bowling Green.

"Cancer of the Uro-Genital Tract," by Carl Lewis Wheeler, Lexington.

The symposium was discussed by Drs. Dunn, Asman, Frank, Hanes, Caldwell and the discussion closed by Dr. Blackburn.

W. F. Boggess, Louisville, read a paper entitled "Neurasthenia."

This paper was discussed by Drs. Frank, Stone, Hanes, Beebe, Roberts, Thompson, Solomon, Reynolds, Pope, Stucky and, in closing, by the author of the paper.

John R. Murnan, Covington, read a paper entitled "Popliteal Aneurysm, With Report of Metas Operation."

SYMPOSIUM ON NEPHRITIS.

Papers were read as follows:

"Diagnosis and Treatment of Acute Nephritis," by W. R. Thompson, Mount Sterling.

"Chronic Nephritis," by S. L. Beard, Shelbyville.

"Pyelonephritis," by O. P. Nuckols, Pineville.

"A Pharmacological Consideration of the Pituitary Glands (An Experimental Demonstration)," by Viril E. Simpson and W. H. McCracken, Louisville, read by title and ordered published in the KENTUCKY MEDICAL JOURNAL.

On motion, the Association adjourned until 9 a. m. Thursday.

SEPTEMBER 29—THIRD DAY, MORNING SESSION.

The Association met at 9:10 a. m. and was called to order by the President.

The first order was a symposium on diseases of children. Papers were read as follows:

"The Prophylaxis and Treatment of Acute Gastro-Enteric Infection," by J. M. Rees, Cynthiaana.

"The Prophylaxis and Treatment of Scarlet Fever," by J. S. Lock, Barbourville.

"Typhoid Fever," by F. D. Cartwright, Bowling Green, read by title in the absence of the author.

"The Prophylaxis and Treatment of Measles," by T. A. Frazer, Marion, read by title in the absence of the author.

"The Prophylaxis and Treatment of Diphtheria," by F. L. Lapsley, Paris, read by title in the absence of the author.

J. T. Windell, Louisville, read a paper entitled "Remote Sequale in Mistreated Cases of Syphilis," which was discussed by Drs. Solomon, Pope, Zwick and Frank.

The Secretary read a telegram from the Secretary of the Michigan State Medical Society extending greetings and wishing a successful meeting.

On motion, the Secretary was instructed to reply to the telegram, stating that the meeting of the Kentucky State Medical Association had been a very successful one, and hoping that the Michigan State Medical Association meeting had been likewise.

The symposium on diseases of children was discussed by Dr. Solomon.

William A. Thompson, of Newport, read a paper entitled "The Finger As an Aid in the Complete Enucleation of the Tonsil," which was discussed by Drs. Stucky, McClure, Kiser, Zwick and, in closing, by the author of the paper.

There being no further business to come before the meeting, either scientific or otherwise, on motion the Association then adjourned to meet in Paducah in 1911.

Inflammatory Stricture of the Prostatic Urethra.—Girolamo states that the tissues here are so hard to dilate that treatment can be only by circular electrolysis. He has been uniformly successful with this method, as he describes in detail. The anterior urethra may have to be dilated as a preliminary to exploration of the stricture proper.

ORIGINAL ARTICLES.

SYMPOSIUM:

THE DIAGNOSTIC SIGNIFICANCE OF HEADACHE TO THE INTERNIST.*

BY DR. J. W. KINCAID, CATLETTSBURG, KY.

Upon looking up the subject of the Diagnostic Significance of Headache in many of the standard works it seems to me that the chief object of each writer has been to enumerate every possible cause, and then with the aid of a few diagrams, of which a phrenologist could be proud, to map out a definite area on the head for each individual cause; for example, in one of the standard text books of the present day on diagnosis a local region is given for diseases of the testicles, ovaries, for aneurysm of the innominate, disease of the antrum and ulcer of the tongue, etc. The location of the pain in a particular region may be suggestive when considered in connection with the complete history of the case and associated symptoms as it has been found that pain located in certain parts of the head occurs more often in this or that condition of disease; but that it is always related to some especial pathological condition, either adjacent or remote, when thus localized is not borne out by clinical experience.

Pain is a subjective symptom and headache is defined as an attack of diffuse pain, affecting different parts of the head and not confined to a particular nerve. Headaches must be considered in connection with the patient's personal, and at times family history, and I want to emphasize the importance of obtaining it as a matter of routine as much as the making of a physical examination. If this is done and the underlying cause correctly diagnosed we have made a long step towards obtaining the patient's confidence and discounting the tendency towards self-medication with all its attendant ills. The number of lives sacrificed, owing to cerebral syphilis and nephritis untreated, except by patent medicines and headache tablets until the crisis comes like a thunder clap out of a clear sky will never be known.

The first important factor is the age of the patient and here let me call your attention to a very practical classification made by Collins. (Treatment of Diseases of the Nervous System.)

(1) Headaches of early life up to puberty are chiefly: (a) Reflex-suggestive of eye strain, or adenoids; or, (b) due to constipation.

(2) Headaches of adult life are due chiefly

to: (a) Functional neuroses; or, (b) acute or chronic intoxication.

(3) Headaches of late adult life are generally expressions of arterial degeneration (arterio-sclerosis, syphilis, etc.) or due to the action of toxic agents.

In taking the history and hereditary history of migraine or epilepsy is very suggestive; also a previous history of a weak nervous system; one should never fail to inquire about a former leucic infection and also the use of alcohol and drugs. The duration of the headache, its periodicity, the character of the ache, the accompanying symptoms during an attack and the presence of cardiac pulmonary, renal or gastro-intestinal systems must be investigated. Too much significance must not be given to the patient's statement as to the character of the pain, because owing to temperament some of them habitually magnify all their sufferings, while others are just as prone to err in underestimating their severity. If pain is the dominant symptom they may describe it as acute, sharp, splitting, throbbing, dull ache, darting, boring, burning, bursting as if a band encircled the head, etc., constant or transient, paroxysmal or periodical and varying in degree. Witmer says, "Traditional psychology may be said to regard pain as a feeling, *i. e.*, a purely mental state or condition with, or more frequently without a physical basis in the nervous system. Physicians do not place much confidence in the patient's statement of the quality or character of the pain, largely because patients have not words, nor experience to prompt the words in which to describe their pain. The description of pain by a patient seems to be directly proportional to: (1) liveliness of imagination, (2) vocabulary, (3) experience.

Theoretically, Dana's classification is very nice. (Text Book of Nervous Diseases.) (1) Pulsating or throbbing headaches are characteristic of vaso-motor disturbances. (2) Dull headaches of dyspeptic or toxic origin. (3) Constrictive pressing headache indicates neuropathic conditions.

But with the exception of the throbbing headaches the average patient cannot describe, or accurately locate the pain except in a very vague way; here the skill of the physician is shown in not forcing the history.

Another point in the history of great importance is the time of day that the headache occurs. This is a valuable diagnostic point. The headache which is present when the patient awakens in the morning, continues more or less during the day, and wears off towards evening is very often a neurasthenic headache; a nocturnal headache is common in (but not confined to) syphilis, and it is sometimes

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

difficult to distinguish from the headache of aenemia and rheumatism; determination of the hemoglobin will tell the story in the former, and in the latter the ache is increased by muscular exertion.

When we begin our physical examination the first point is to exclude the cephalic pain of neuralgia and migraine. Neuralgic pain is distinguished by sharp pain referred to certain points along the course of the nerve with sensitiveness of the epicranial structures to which these nerves are distributed; also the patient will often tell you that the pain was relieved by hot applications.

Migraine is a constitutional neurosis characterized by periodical attacks of which the headache is only one symptom; it is usually associated with nausea, vomiting, mental depression, vaso-motor disturbances and vertigo. Heredity plays an important part, the transmission often coming through the mother, although the constitutional peculiarity which predisposes certain people to migraine is not clearly understood. It is very common in women and begins in most cases at, or a little before the age of puberty and has a tendency to subside spontaneously about the menopause, though it is by no means the rule.

Palpation of the skull should next be done as a routine procedure to discover a syphilitic periostitis or rheumatic changes in the calvarium or cranial aponeurosis, or any possible pressure point corresponding to the emergence of the sensory nerves, (trigeminal or occipital).

Percussion of the skull was first described by MacEwen and is of no significance except in tuberculous meningitis.

Hypernemia and anaemia are frequent causes of headache. Venous hypernemia of the cerebral vessels is an important cause of habitual headaches. It is generally caused by mechanical hindrance to the return of the blood from the head. It accompanies growths in the neck making pressure on the jugular veins, cardiac disease, pulmonary emphysema and persistent cough as in pertussis. It also occurs frequently in women at certain periods after the removal of both ovaries.

The condition of the conjunctivae will tell us whether the patient is anaemic or not; it is generally found that the recumbent position with the head low affords great relief. If a woman complains of headache the day after confinement it is generally due to this cause.

The eyes should be examined for errors in refraction. This is of especial importance in children and young adults. All other probable causes, however, must first be eliminated before imposing spectacles upon a patient for

slight refractive errors, for it is often the case that the correction does not relieve the headache entirely.

The headaches due to the involvement of the accessory sinuses of the nose present only one stable characteristic, *i. e.*, with recurrent attacks in the same individual they cause pain at the same point of the head; but this statement means very little because there is no typical location or character of headache in disease of any of the sinuses; in chronic sinusitis there is a constant dull pain in the middle and rear of the head, but this symptom is very unreliable. One should make a digital examination of the naso-pharynx in all children, headaches being very common as a complication of adenoid growths of this region.

It is hardly necessary to examine the ears as a routine procedure because headache is of little importance in the diagnosis of ear diseases, except if it develop during the course of a chronic suppurative otitis media; then it should occasion a careful investigation until its relation to the aural disease can be eliminated; in many cases it may have an independent cause, yet at times it is an all important symptom of serious damage occurring in the mastoid process, or in other parts of the temporal bone, and only by the prompt recognition of its importance can serious or fatal changes be prevented; this is especially so if the headache be localized over the temporo-sphenoidal lobe of the cerebrum, or posteriorly over the region of the cerebellum.

Examination of the heart is not of so great importance because the cardiac lesion in which headache is most marked, *viz.*: aortic insufficiency, generally causes other symptoms for which the patient seeks relief. Examination of the arteries, however, and taking the blood pressure is of the greatest importance; many cases of arterio sclerosis may have headache as their chief initial symptom. In this group additional symptoms are of great value in making a diagnosis. The headache is usually associated with vertigo, tinnitus aurium and slight syncopal attack. This form of headache resembles the neurotic headache in that it is generally worse on arising in the morning but the reason in this case is different; the change in position from the recumbent to the upright posture causes a headache because the arterial walls are slow in accommodating themselves to the changed blood pressure. This headache on arising passes off spontaneously much sooner than the neurotic form.

The gastro-intestinal tract has been held responsible for a large portion of headaches and the chances are that the physician sees only a small part of the total number, people usually doctoring themselves for this complaint. However, there are many cases in

which the headache is a concomitant, but not the most important symptom. The so-called "bilious" headache due to over-eating, alcohol, or constipation with defective elimination comes under this head and is a very common occurrence. The history in these cases is of paramount importance and by means of test meals, examination of the stool and determination of the amount of indican in the urine one can find out the etiological factor.

Occasionally one meets a case where a headache is due to the patient having taken large doses of quinine, or the salicylates, or the nitrites.

In the male it might be worth while to examine the genitalia, although the headaches of the secondary stage of syphilis are not very severe as a rule. In tertiary stage they are generally much more severe, and the presence of a scar on the penis helps in making a correct diagnosis.

It is not worth while examining the female genitalia because the opinion of gynecologists at the present time is that headache is seldom due to the actual disease in the pelvis, but to the nerve exhaustion which the latter causes.

Examination of the urine is most important, headache being a frequent early symptom of nephritis; of course, the headaches of uremia are easy to diagnose. Nephritic headaches are often associated with the same symptoms mentioned under arterio-sclerosis with the addition of nausea, vomiting and possibly somnolence.

Headache in the pregnant woman should excite our suspicions at once and demands an immediate examination of the urine. It is often a premonitory symptom of an approaching puerperal eclampsia which may be forestalled by vigorous eliminative treatment.

Examination of the nervous system is, perhaps, the most important of all. Collins says that 40 per cent. or more of all headaches are due to neurasthenia. I have already stated that a neurasthenic headache is generally present when the patient awakens, continues during the day and wears off towards night; it is supposed to cause a sensation of pressure as if a band encircled the head; it is made worse by fatigue, mental exertion and excitement.

I will only mention hysterical headaches to say that they are very uncommon.

Epileptic headaches may occur at any time without regard to an attack; all idiopathic headaches occurring during childhood and early adult life should cause careful examination for epileptic stigmata; the main characteristic is the abrupt onset, extreme intensity and abrupt termination.

We next come to organic changes in the nervous system; under this head comes tumor and abscess of the brain, syphilitic endarteritis

and meningitis. As far as tumor and abscess of the brain are concerned I will only state that the examination of the eye ground is of the greatest importance, and that the marked persistence of the headache should always make one suspicious of a brain tumor. Inter-tary syphilis headache is usually accompanied by vertigo, slight dementia and paresis and its nocturnal occurrence has already been described. Headache due to chronic meningitis, especially the tuberculous form, is not typical.

Headache is of common occurrence in the early stages of the acute infectious diseases. As an initial symptom of typhoid fever it is often so severe and persistent as to demand opiates for its relief. It is generally occipital and accompanied by photophobia and simulates meningitis. In smallpox and tonsillitis it is marked at the beginning and is accompanied by pain in the back. In La Grippe we have the same train of symptoms, but with a more general distribution of muscular pain. In cerebro-spinal meningitis it is almost pathognomonic, being of a racking and persistent character, though subject to remission and often so violent as to cause the patient to groan even while profoundly comatose. In the febrile stage of malarial fevers it is also present. As a routine practice the temperature should be taken in every case of acute headache. The character and frequency of the pulse with an associated fever being always suggestive of the probably infections or inflammatory origin of the trouble.

THE DIAGNOSTIC SIGNIFICANCE OF HEADACHE TO THE SURGEON.*

By A. DAVID WILLMOTH, LOUISVILLE.

In the attempt to prepare an essay on the subject assigned me, I was reminded of the story of the child, who, in writing an essay on rabbits, noted when she had nearly finished that she had said nothing about the tail.

On asking her mother if rabbits had tails, she was informed they had, but none to speak of, so in her closing sentence she said rabbits also have tails but you musn't say anything about it. This seems to be analogous to the surgical side of headaches, for in the review of the literature it can be truthfully said that no other disease of such severity has been less studied surgically and more treated medically than the one under consideration.

The remarks of Lehman made a number of years ago in an essay on the causes of organic headache and read before the Orleans Parish Medical Society will bear repetition. He insisted that the symposium be termed a *plea* for a more thorough-going, conscientious differential diagnosis, for in this the same old

rule holds true, "A diagnosis once made the treatment becomes easy."

It is in headache that we are called upon to minister to one of the three conditions, the aim of all surgery, viz.: *to relieve suffering*, and I am not so sure that the other two could not be included, *to restore function*, and *to save life*, for unless the first is relieved it naturally follows that the other two become very much endangered.

Every case of frequently recurring headache calls and calls loudly for a very careful and painstaking examination of not only every organ in the body but the urine, blood and blood pressure as well. The reflexes, sensations and other nervous functions must be tested out either by the surgeon himself or what I think is far more preferable, by a competent neurologist.

An accurate history should be gotten and a continued series of observations made, this being necessary from loss of memory that



frequently accompanies headache and when we stop to consider that headache is only a form of pain, and that pain is only a symptom, and that its presence means anything from slight auto-intoxication to the most formidable brain lesion, we can easily understand how very careful an examination should be in each case. It is, indeed, unfortunate that neither the location nor the character of the pain can be relied upon to any great extent in making the diagnosis, although certain localized cerebral pains when taken in connection with the symptoms complex, are signboards pointing in the right direction.

Patients judge of the position of their own disease most frequently by the situation of the most prominent symptom, or those most palpable to their senses, whilst the surgeon relying upon his knowledge of the true cause of the symptoms judge the seat of the disease by a correct interpretation of the symptoms through the medium of normal anatomy, applying this method to the case in point. It is through the distribution of the cerebro-spinal nerves of sensation (the fifth being the true cranial sensitive nerve) that we are able to explain the so-called sympathetic pains.

The above facts being true, it then becomes the duty of the surgeon when a patient comes complaining of pain that persists, to seek the real cause of the pain; this means that he must seek the exact position of the pain and just so soon as he recognizes the precise position of it, he is enabled by his knowledge of the distribution of the nerve or nerves to arrive at once at a rational suggestion as to what nerve is the exponent of the symptom. By following centripetally the course of that nerve and bearing in mind its relation to surrounding structures, he will in all probability—in fact, most likely—be able to reach the original, the producing cause of pain and consequently adopt the correct treatment.

For the purpose of study, surgical headaches may be divided into two classes as regards cause; those where the pathology is located in the brain, membranes, skull or scalp; those where the pathology is located elsewhere in the body and affects the head only as a symptom, "the so-called reflex headaches."

We must also divide headaches as to character of pain experienced by the patient, and last, they must be divided as to their location on the head, for without these two factors the diagnosis many times would be impossible.

Patients recognize five kinds of pain: (1) Pulsating and throbbing, (2) dull and heavy, (3) constricting, squeezing and pressing, (4) hot and burning, (5) sharp and boring. Under the first head comes the vaso-motor troubles such as migraine; to the second belongs the toxic and dyspeptic headaches; to the third the neurotic, to the fourth the rheumatic, the anaemic, and to the fifth the hysterical and epileptic. As to the location of the pain may be said to be frontal, occipital, parietal, vertical, diffuse and combinations of any of these. With this classification let us see what pathological lesions give rise to pain.

Beginning with the simplest, we find that these conditions arising from the scalp that cause headache are mainly inflammatory, such as localized abscesses (or furuncle) or the more severe form of inflammation, which fortunately is rare, known as diffuse cellulitis, or erysipelas, lastly neuralgias of the scalp are quite frequent in occurrence, the former

condition always surgical, the latter only becoming so when severe enough to call for nerve stretching, injection or cutting. Fortunately the diagnosis in these lesions is usually easy and when the pain follows closely the trunk of the nerve and its branches, we are safe to assume that it is of neuralgic origin, one exception to the rule being made, in the well localized pain of elavus hystericus, which will be mentioned later.

Abnormal conditions of the blood vessels of the scalp need only to be mentioned for reason of their rarity; they can be easily seen.

Next comes conditions of the skull. These, like those of the scalp, will be given only a mention. Here also inflammation plays the most important role; next in importance tumors, such as exostosis, malignancy, giving early and marked symptoms, the diagnosis becoming easy in the early stages.

Syphilitic affection must be kept in mind where no pathology can be found. One condition not referred to in text-books or literature is varicose conditions of the diploe. If varicosity causes pain and tenderness in the male and varicosity in the broad ligament of the female pain and tenderness, why should not the same rule hold true here? I beg of you to bear this in mind when searching for pathology. One case operated upon in the past six months caused me to consider this as important and worthy of mention.

Lastly, we have to consider the condition of otitis-deformans and acromegaly, both of which cause increase in size of skull but a diminution of the cranial cavity (thereby increasing intracranial pressure) and headaches as a part of the symptoms complex.

Two organic intra-cranial lesions must be especially considered since they constitute the cause of the severest forms of headache, viz., tumors and abscess. It is here that we find that headache is one of three major symptoms that is considered of great importance; but we must take the other two along with it to be able to properly interpret the first; they are vomiting and vertigo.

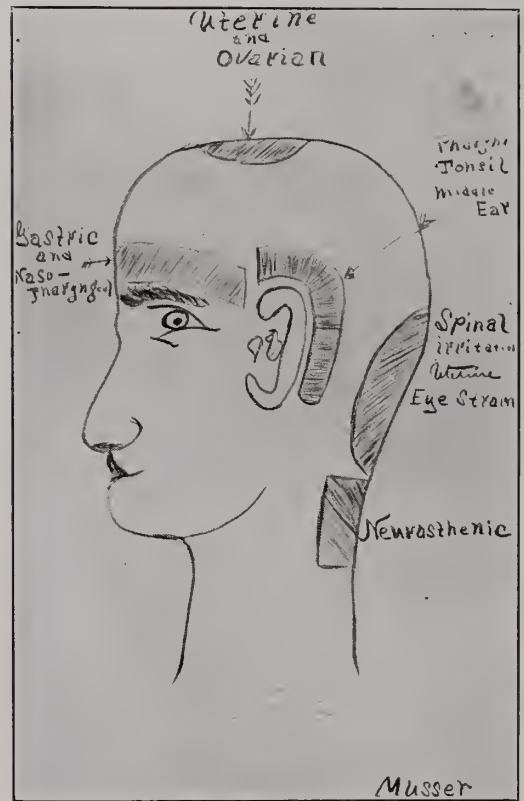
I can easily understand how a slow growing tumor may cause no symptoms, also one located in a silent area may cause none for at least a while, but either will cause symptoms as soon as intra-cranial pressure is raised to a certain point. Now, many of you are wondering in your minds how pain is caused by these conditions, since it is known that the brain can be handled and cut without producing pain. These questions may be answered by refreshing our minds on what is happening in the calvarium. Increased pressure causes stretching of the membranes and the cranial parietes; pain is bound to occur unless the condition is slow enough to allow

edema and sufficient anaemia of the brain to take place to obtund sensation.

Again branches of the fifth nerve may be involved in the inflammation or tumor as the case may be. Another question frequently asked, is there any relation between the seat of pain and the tumor, etc.; all that can be said is that there is sometimes no correspondence, sometimes a general correspondence.

Organic disease is by no means as frequent a cause of headache as might be imagined from the gross cerebral lesion, the lesions most apt to cause it are the various forms of tumors, hydatids, adhesions and ossified formations within the cranial cavity.

In studying the headache of organic lesions



we find they are more or less continuous in character and are referred to a circumscribed portion of the brain. There may or may not be accompanying disturbances of sensation and motion assuming the form of local spasms, paresis or impairment of vision.

Sometimes cases are encountered in which progressive loss of muscular power, vertigo, visual impairment, and derangement of the faculty of recollection are the prominent symptoms. If headache is accompanied by epileptiform phenomena, disturbances of speech, and facial paralysis, at or near the period of adolescence, it is strong presumptive

evidence that we have to do with organic disease. Especially is the correctness of the diagnosis enhanced if there is vomiting and inability to retain food, in the absence of gastric symptoms, and certainly so if the vomiting is projectile in character.

In cerebral tumors while headache is not present early in many cases and where present is intermittent or paroxysmal, if we take the trouble to get a careful history it will develop that the patient complains of vertigo tinnitus-arium, defective memory and ultimate confusion of intellect.

In inflammatory conditions you are certain

ed if not removed by the accumulation of serum in the cavities and between the membranes of the brain, but the pain is aggravated when inflammation and softening occur in the vicinity of the tumor. The headache that accompanies cancerous affections of the brain is generally severely acute and lancinating. In abscess of the brain it is generally paroxysmal.

Localized pain with tenderness on pressure suggest very strongly that the tumor is superficial and that the bones or membranes are affected.

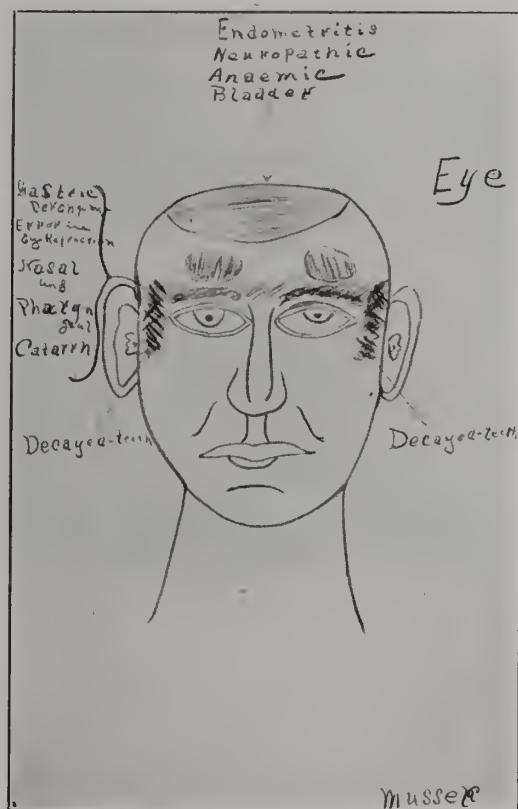
If all the branches of the fifth nerve are affected it is strong presumptive evidence that the trouble is intra-cranial while where only one branch is affected it is generally extra-cranial.

In cerebellar tumors the pain is generally severe and may even lead to suicide. The symptom of pressure sensation above referred to seems to be of especial value and I think can be utilized to advantage. These patients often tell us that in straining to defecate that the pain becomes unbearable, the same thing happening on coughing, crying and sneezing. We also know that in the new-born babe how the Fontanelles will fill on the least exertion, this same thing can be imitated in every patient by having them cough and strain as though to cause the bowels to move, by so doing if we are dealing with organic disease the pain should and will be very materially increased even to a point of intolerance.

If this is found together with an increase in eating highly-spiced foods, long and sound sleep, elevation of temperature, etc., and is exalted by bodily and mental fatigue and the health is impaired between the interval, if any exist, we are reasonably certain of organic disease.

Of course, he who runs can read after local symptoms have appeared, such as facial paralysis or trunk involvement or the organs of sense become anaesthetized or delirium supervenes.

A word must be said regarding the character of the vomiting in organic cases since we stated at the outset that to properly interpret the headache it must be considered with the tripod of symptoms mentioned. To again quote from Romberg, the following points of significance are attached to vomiting due to organic brain disease: (1) The influence of the position of the head, the vomiting being frequently arrested in the horizontal and recurring in the erect position, (2) the absence of premonitory nausea, (3) the peculiar character of the vomiting, the contents being ejected without fatigue or writhing, just as babies at the breast so frequently do, (4) the radial and cardiac pulse will not only be ir-



to have not only pain in the head, but inability to move the head, the slightest movement causing acute lancinating pain, as does a warm room, the noise of company, or even the exertion of a conversation. Connected with this type is the intolerance of light and general sensorial acuteness. Romberg many years ago described the pain as being localized to a larger or smaller portion of the cranium as though pressure was being applied to the head, causing pulsations, while in others the brain would feel as though it rolled over at each movement of the head.

He affirms the headache symptomatic of tumors of the brain is considerably diminish-

regular but will be made more so subsequent to the vomiting. It may be said, however, that vomiting is only to be looked for in the early stage.

In organic disease the pain is generally constant; it may vary from time to time, but there are rarely periods of perfect freedom. It is so severe that at times the patient will shriek from the suffering. This may be said of migraine, but remember, gentlemen, that migraine is paroxysmal—separated by days or weeks of freedom, comparative or perfect. The pain of organic disease persists during the night, often preventing sleep or arousing the sufferer. Functional headaches rarely present sleep, which, indeed, often ends the attacks. If sleepless, look out for optic neuritis, vertigo and vomiting. If these three constitutional states, marked anaemia, kidney disease and lead poisoning can be excluded, optic neuritis with headache is almost pathognomonic of organic disease.

In conclusion, I desire to state that much can be done for that class of headaches found by exclusion to be entirely surgical. If due to adhesions or any of the conditions not cancerous (and thereby threatening life) relief can be promised if properly managed. In the hands of those experienced in brain work the results have been marvelous.

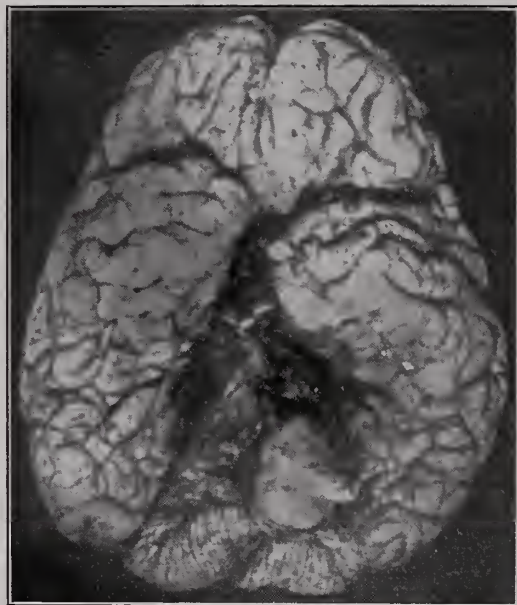
The following case reports will show the results that have been obtained during the past year, some of the cases coming under my care.

I have found that if the brain is dealt with gently that it lends itself kindly to most any amount of handling. After I have located the area involved by a careful study of the nerves and centers involved I expose the field of brain tissue either by an osteo-plastic flap or in most cases by the trephine opening and leave the bone out, as I have observed along with many others in this field of work that a decompression is indicated in many, even where marked pathology is found, and if we should find none at all it would be far better to relieve the pressure by leaving the button of bone out.

As time will not allow of my going into details of the operation for the relief of these unfortunates, I will hasten to the report of just two or three cases that will impress upon your minds the good that can be obtained.

Case I.—Mr. C., age 21, white, personal and family history good, gave history of having headache for a period of 12 to 14 years, always experiencing the pain on the right side of head rather high up along the fissure of Rolando, while in the hospital under study he had what was thought to be a mild epileptic seizure, involving the tongue, then spreading over the right side. As this young man was

left-handed, I still figured that the trouble was on the right side high up and decided to open there, and did so by the ordinary one and a quarter inch trephine. There was no pathology in the scalp, but the skull was found to be very thick and both tables united together. After removing the portion of the skull and opening the dura it was found that the cortex was adherent to the dura. This was freed and the wound closed. An interesting feature of this case was found out after the patient was nearly well. It was that he had received an injury to the head at that



very site when quite young by being struck by a fence rail. The last account of the young man was had about six months ago, he was a private in the United States army and stationed at Fort Benjamin Harrison. He was free from both pain and petit-mal.

Case II.—Mr. W., white, age 21, referred by Drs. Boggess and Mehler, of Louisville, with the following history, that about six months previous he had been injured over the right temporal region high up by being grazed by a nine-pound paving brick, the brick falling out of a second story window and brushing the head on its passage to the ground. He was slightly dazed at the time, but was able to return home, but within a few hours he complained of what he described as electrical shocks, and it could be clearly seen that there was marked mental disturbance. This mental disturbance increased to a well-defined case of insanity, the patient complaining of the head at or near the site of the injury. The condition cleared up under

medicinal treatment, but only in part, and after a few days relapsed back worse than ever. It was at this time that I was asked by the physicians to see him, as they had decided that he was clearly a surgical case. To this I agreed and he was sent to the hospital and operated on the next day. At the operating table the following was found: Scalp not thick or adherent, skull normal in thickness of tables but the space between the tables wider than normal and in the space there were the largest vessels, both in size and amount that I have ever encountered (this being the case referred to in article on varicosity), as the button was removed by the brace and bit method the button was destroyed. After controlling the hemorrhage from the varicose vessels the dura was opened and found to be only very slightly adherent to the cortex, this was separated and the wound closed with gauzed wicks to control any bleeding that might take place from the vessels. This young man came from under the anaesthetic rational and made an uninterrupted recovery and is in perfect health, working on a swinging ladder and painting.

As time will not allow of further reports permit me to urge upon you the necessity of giving the frequent headache sufferer your best thoughts before giving him the awful decision of incurable only for the acute attacks.

HEADACHE TO THE SPECIALIST IN EYE, EAR, NOSE AND THROAT.*

By M. C. DUNN, HENDERSON.

While the diagnostic significance of headache has possibly greater interest for the eye, ear, nose and throat specialist than others, from the fact that probably 70 per cent. of all these troubles are ocular in origin; yet no one, more than the well-trained specialist in his field, knows that every case of this affection presenting itself insistently demands a full investigation of the organism for its elucidation.

According to Goggeshall and McCoy all recurrent headaches have: First, an underlying neuropathic diathesis; second, a toxic or an anemic condition; third, some form of local irritation; fourth, that these conditions are combined in various ways.

Just in proportion to the thoroughness of the general examination will the importance and influence of these various factors be elicited. In this connection it can be said, that in the absence of neurotic tendencies that errors of refraction will not cause headaches

in an absolutely normal individual; they will merely cause discomfort in the eyes, as has been emphasized by Thorington, Gradle and others. Back of all is a nervous organism in unstable equilibrium. While headaches are classified etiologically by Erb and Danna into haemic, toxic, neuropathic and reflex causes; yet they are for the present purpose as suggested by Gradle and others, best studied in regard to their time-relation and location.

In speaking of the locations of the various headaches, it should be understood that the diagnostic importance of the location is not absolute and is to be taken in a relative sense only.

Unilateral headache, with the single exception of migraine is due to some lesion on the same side of the head, either intra-cranial or in one of the organs of sense. The fact should not be lost sight of, however, that one-sided lesions may, and frequently do, give rise to general and diffused headache.

Of all local irritations those of ocular origin easily stand first. They arise from astigmatism, hyperopia, myopia, muscular imbalance, or retinal asthenopia, or a combination of one or more of these affections. A localization of the pain in the frontal region is suggestive of either astigmatism, sinus disease (often unilateral) or gastric derangements. An occipital localization is significant of muscular imbalance, ovarian disorders and uterine retro-deviations or some intra-cranial lesion.

Situated in the temple would suggest muscular imbalance or hypermetropia. A vertical headache is almost certainly due to disease of the body, or mucous membrane of the uterus, endometritis or subinvolution.

An inflammation of the frontal sinus gives rise to frontal pain; the pain often being sharply localized and sometimes unilateral. Ethmoiditis usually occasions pain referred to the base of the nose, while inflammation of the sphenoidal sinus gives rise to a deep-seated pain at the base of the brain or in the occipital region. Various degrees of nasal stenosis will cause headache, though usually of moderate severity. Many chronic headaches originate from hypertrophied tonsils and adenoids, and vanish like magic upon the removal of these structures. The general conditions causing headaches should never be lost sight of.

Recently a case coming under my observation with persistent headache, blepharitis, etc., was at once cleared up by urinalysis; the copper test showing an enormous amount of sugar. Likewise, Bright's disease, lithemia, syphilis, etc., should always be remembered and corroborative symptoms sought for.

The time-relations are most important.

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

Headaches may be paroxymal, continuous, or follow certain definite acts or occupations. The most striking example of headaches due to specific acts are those resulting from eye-strain. The peculiar mechanism of accommodation, especially when the structural defects of hypermatropia, myopia or astigmatism, with or without muscular imbalance, are present, makes the explanation of their sequence of events plain. The continuous effort of the ciliary muscle to adjust the crystalline lens to the abnormal axes, and the different meridians of astigmatism, eventually result in reflex pains in the head, and I might say incidentally, in various disordered functions in other parts of the organism. The headache of eye-strain is usually of a dull, heavy character, though it may be sharp and neuralgic and associated with vomiting; being variously located as before stated, in the frontal, temporal, or occipital region; sometimes being reflected down the back of the neck. However, the most characteristic feature is the inception of pain after variable intervals whenever any continuous, protracted or excessive use of the eyes are attempted. The relation of cause and effect in these cases are sometimes strikingly clear, while in others they are more remote and obscure. In certain cases they only manifest themselves on rare occasions: when the patient is depressed and has subjected his eyes to excessive work—the so-called shoppers' headache. It will be noted in this connection that pain is rarely present on awakening in the morning; and that it is seldom of such character as to prevent sleep.

In a consideration of ocular headache it should be remembered that continuous pain, especially if one-sided and occurring in an individual of middle life, is often indicative of serious inflammatory disease—optic neuritis, especially if dimness of vision is present, glaucoma, iritis, etc. These remarks apply with peculiar force to the condition of glaucoma because of the almost invariably disastrous results of delay in these cases, and the oftentimes happy outcome in cases recognized early.

As every specialist here knows, it is too often that glaucoma is treated as an ordinary headache until the opportune time is forever past. In this connection I would urge the general practitioner to remember that often very low or slight errors of refraction will give rise to intense headaches; and on the other hand, no error of refraction, after correction which has been accompanied with intense headaches, should be dismissed without a thorough examination of the urine having been made. Very often after correcting the

refraction the pain returns at variable intervals, or only partially abates, when further investigation shows that a dual or composite cause underlies the trouble; the error of refraction having been only one factor in the disturbance.

The fact that retinal asthenopia is sometimes a cause of these troubles, even in the absence of refractive errors, is too often ignored.

These cases invariably occur in females and usually result from excessive use of the eyes in too bright or too dim a light.

The ophthalmoscope findings may be negative, show congested area, or finely dotted appearance in the region of the macula-lutea, the salt and pepper appearance. This condition may occur as a symptom of hysteria, especially when associated with the above mentioned changes in the retina. Muscular insufficiency is often the cause of extremely severe headaches and when one remembers the complex muscular and nervous mechanism involved in the act of binocular vision, he is prepared to understand why so many baleful consequences have been attributed to a derangement of this function. However, widely varying views are entertained as to the relative importance of this factor in the production of the trouble; some considering its influence very slight while others consider it an active agent in the production of numerous disorders. One reason for the discordant views being the extremely intimate connection of accommodation and convergence, it being sometimes impossible to determine which is the most disturbing element in the clinical syndrome. Another reason being that it is more difficult to study the various phenomena of the extra-ocular muscles than those of accommodation, it is often difficult, so to speak, to fix the responsibility: for instance, to say whether a certain muscle is too strong or its opponent too weak. Usually in proportion to our exactness in studying our cases will we come to attach greater importance to their cause in producing ocular headaches. Probably nothing has occasioned so much discussion among the ophthalmologist and their neurological friends as the subject of migraine. While there is undoubtedly an underlying neuropathic and toxic diathesis in this disease, yet the exciting factor in many if not a majority, is some ocular defect. Gräde is authority for the statement: "If wholly or predominantly one-sided, migraine is surely dependent on either an error of refraction, or in a smaller proportion of cases, on some nasal disease."

Still further he says, "The absolute proof in a given case can only be determined by the influence of glasses." That accommoda-

tion is an active factor in the production of this disorder seems an inevitable conclusion when we remember that the disease always begins about school age or early puberty, when demands for active accommodation are first beginning, and that it practically always disappears with advancing years, with the decline or abolition of accommodation.

Coggeshall and McCoy say: "Migraine disappears just when the patient ceases to be able, by any effort on the part of the muscles of his eyes, to correct or accommodate for the error in the structure."

"We have still to see a case of migraine that exists in an individual with no muscular imbalance and no more than the physiologic amount of astigmatism; and we have seen ease after ease cured, though often with much difficulty, by a sufficiently careful correction of ocular error. We should not be understood, however, in saying this to go quite the length of some ophthalmologists, who regard migraine as due simply and entirely to eye-strain. In practically every form of headache we have to use a mathematical metaphor, to regard the disease as a product of several factors, a lack of resisting power in the nervous system, which is about what a neuropathic temperament amounts to, and secondly, to some toxemia or reflex strain due to local disease.

Migraine may be regarded as a headache in which the neuropathic factor is larger than some others, in which the factor due to local irritation is, however, an essential one, and in which, to continue the same metaphor, the product of suffering is increased, at least in most cases, by multiplying these by a third factor, that of auto-intoxication.

Headaches result from various lesions in the nose, naso-pharynx, and accessory sinuses, they are usually frontal, often very circumscribed in area. They are usually morning headaches, and especially if the subject be a mouth breather, and grow less severe during the day as better respiration and drainage is established. When due to acute inflammation of the accessory sinuses the pain is usually very intense and is greatly aggravated by motion of the head. The pain originating from hypertrophied turbinates, spurs, deflected septa, or adenoids is usually far less severe.

Relatively speaking, the ear is much less frequently the source of recurrent headache than the eye or the nose. In these cases they may be due to the adherence of wax to the membrani tympani, occlusion of the eustachian tube. At any time during an otitis media or mastoiditis the inception of a severe,

continuous headache is a symptom of the gravest prognostic import.

The two most important facts to keep in mind in endeavoring to interpret the significance of headache are, first, that it is an important symptom of a number of functional and organic diseases; and second, that the location, character, and duration of the pains are oftentimes the means of suggesting the condition or disease upon which it depends. We have much yet to learn respecting headache and the remote effect of a disturbed nervous equilibrium upon the organs of the chest and abdomen. We also have much to unlearn, many inherent prejudices to overcome, and many clinical conclusions to discard before our patients can derive the full benefit of our own advancement.

DISCUSSION.

D. M. Griffith, Owensboro: My discussion of the papers of this symposium shall very properly be confined to that of Dr. Dunn, who is to be congratulated upon the splendid and practical manner in which he has handled the subject.

Eye strain as a cause of headache is now universally accepted by the profession, but the credit of intelligently and persistently bringing the subject before the profession is largely due to S. Weir Mitchell through his splendid papers.

In every case of persistent headache under forty years of age in which there is no assignable cause, the refraction and muscular balance of the eye should be carefully inquired into by a competent oculist and with the use of a cycloplegic. It has been my experience that the small errors of refraction are the ones that produce the reflex we call headache; for the reason that nature keeps up a persistent effort to overcome this small error she abandons herself to poor vision and thereby secures freedom from nerve strain.

I wish to emphasize very strongly the doctor's remarks relative to chronic simple glaucoma. Here pain may be the only symptom recognized except at the hands of those of considerable experience, and I would admonish the general practitioner not to use dilating drops in these cases, as the result is always disastrous.

In my experience the most frequent cause of one-sided headache is the nose or the accessory sinuses; and in this order of frequency with the sinuses...the frontal, ethmoidal, sphenoidal and, lastly, the maxillary. And as at our Winchester meeting, I repeat here many of our worst headaches come from simple pressure in the middle turbinate region, and I have relieved ease after ease by operations which secured relief of pressure with the resulting relief of pain.

Contrary to the general opinion, diseased tonsils may be the cause of headaches, as proven by several of my own cases during the past year.

One in particular, a school teacher, who had suffered from headaches for three years, was given complete relief by removal of the tonsils in their capsule.

In cases of severe and persistent headaches when do not get relief from continued medication or from the general surgeon, the eye, ear, nose and throat man is the port of salvation for many a suffering sailor upon the sea of pain.

In conclusion, just a word in regard to one particular kind of headache that does not come within the domain of my specialty, but which is of particular interest, because of the fact it is so little recognized in this country, but is recognized and written about in Europe, where it is considered a clinical entity.

They speak of it as headache occurring in those individuals who have several indurated nodules in the muscles of the neck. Relief is secured by massaging the muscles, applying heat, and administering fifteen grains of the salicylates every three hours.

J. D. Kiser, Lexington: I will try to discuss these papers from a rhinological standpoint. In case of periorbital pain and severe headache, but usually unilateral, but may involve any region of the head, but if unilateral, as the essayist has said, there may be some trouble with sinuses, more often the frontal or the sphenoid. If the sphenoidal sinus is at fault the pain is deep-seated, extending backwards towards the back of head, and often the removal of the middle turbinated bone will relieve a great many of these cases, and finally bring about a cure without further surgery. Free drainage and ventilation of the sinus is what you want to establish. In case of sphenoidal infection there is a blocking of the ostium, obstructing ventilation and drainage. This is caused by a swollen membrane. A largely developed sphenoidal sinus may completely undermine the sella turcica and come into close proximity with the optic nerve, and produce blindness. So, in all cases of unexplained blindness, the sinuses should be carefully examined. From an ophthalmological standpoint, if there is a frontal fronto-temporal or fronto-occipital pain, the pain or discomfort may extend into the neck or shoulders. The headache, developing during the use of the eyes and gradually grows worse by continued use, ceases after the eyes are rested. There is most assuredly some form of asthenopia. This pain is often caused by muscular imbalance, usually the interni are at fault, lacking the power of convergence. The headache may be due to failure of the ciliary muscle, when the eyes are over-used in too bright or too dim a light, especially in those cases where we have hypermetropic-astigmatism, bordering on presbyopia. Most all these cases can be cured or greatly benefitted by correcting the refraction.

F. H. Clark, Lexington: In a broad sense,

the diagnostic significance of headaches to the internist and specialist is of the utmost importance, because all rational treatment must be based upon a knowledge of the etiology of the headache. I have been accustomed to divide headaches, for purposes of study, like ancient Gaul, into three parts, and I find that the cases belong to one of the three classes, namely, mechanical, toxic, or reflex. If we can determine the cause or causes of one or the other of these three classes, it will give us a clew to the treatment of the case. The reflex causes of headaches are the smallest of the lot, notwithstanding the fact that our specialists say they are frequent. The headache may be the principal cause of eye strain, and our specialists lay great stress on it as being the chief cause of headache. I believe one of the principal causes of headache is toxemia. I am excluding migraine and peri-neural headache. While I believe toxemia is one of the chief causes of headache, I am satisfied there is more than one cause involved in the production of all headaches. The toxemias are of two general types, such as those from lead poisoning and acid intoxication from defective liver or kidneys. But it is the poison circulating in the blood that causes a large proportion of the cases of headaches and they are due to a neuropathic tendency. I believe that a large proportion of the cases of headaches in neurasthenics are a modification of migraine. Pure migraine is a rare disease, but I believe a large number of recurrent headaches are migraine proper plus some of the other conditions which must be corrected to afford relief.

With reference to surgical headaches, they have been well illustrated by the essayist who considered that part of the symposium. These headaches do not fall under my part of the discussion except with reference to the question of diagnosis, and to take up the question of diagnosis of brain tumor at this time would consume altogether too much time. It is too broad a subject to consider in a five-minute discussion.

To sum up: you will find almost all headaches can be put under one of the three classes or subdivisions I have mentioned. There is a toxic or mechanical condition somewhere plus some neurotic condition which causes the headaches. There may be lithemia, and the class of neurasthenics will account for a large number of the cases of headaches we have to deal with. A careful study of these and a proper diagnosis offer the only chance of relief. I recall many cases of headaches that have not been carefully investigated by physicians. They have been careless in trying to ascertain the cause or causes of the headache, and they have not made an accurate diagnosis of the conditions. For instance, in cases of glaucoma or of brain tumors, important symptoms are sometimes overlooked. This is not only true of these conditions, but it

is likewise true of other grave diseases in which headache would be an important indication if carefully followed out and treated.

Curran Pope, Louisville: From the great wealth of material presented in these most excellent papers, one can hardly touch more than a few mountain peaks in the short time that is given for discussion. If headache is a symptom and symptomatic, how can we come to a conclusion about headache unless we, like the jury, are in possession of all the facts? The point I wish to emphasize is that no practitioner has a right to diagnose headache until he first possesses **all the facts** in any given case. Take the history of syphilis; the most unreliable history that is ever given—don't believe patients' statements, do not accept them if clinical symptoms point toward syphilis. You are giving a scientific plan of approximating an accurate diagnosis through the methods of Wassermann and Noguchi. I will not accept a patient's statement on the question of specific headache; my diagnosis will be based on a serum diagnosis. The more we study the modern psychology of Freud, (of Vienna,) and Jung and the German school of his collaborators, the less we are led to believe that neurasthenia, hysteria and neurotic headaches are the result of this or that or the other cause, vaso-motor or otherwise. It is perfectly astounding how a headache will disappear when the hidden complex, lost in the subconscious, is found by psychoanalyses and brought to light. In other words, the headache is merely an expression on the surface of a psychological idea hidden in the subconscious. By psychological analysis we do not mean suggestion or hypnotism, but an actual correction of the mental state or attitude of the patient, the rendering of unconscious idea conscious, without the intervention of suggestion, without the intervention of hypnotism. In my opinion, the question of eye strain, of the various reflexes arising from the sinuses and otherwise, occupy a very definite, clear and well-defined position. If the condition exists, correct it. If you had an animal too heavily loaded, you would lift the load. The animal moves along better under a light than a heavy load. My principle has always been to first refer these cases to some good specialist, if they have not been already examined, in order that these conditions may be remedied should they exist, in order that the condition may be removed and thus to lift any **burden** from the individual, I do not care where it arises, and it is only by eliminating one after the other of the possible causes and getting down deep into the question of headache, that you are entitled to the diagnosis. Once made you can then cure the case. I am not now speaking of organic lesions; these are questions for diagnosis and operative work, if possible. I am one of those who believe in the bit; not in the mallet, chisel and trephine. This, I believe, is a

big advance along surgical lines. But, to come back to my first statement, no general practitioner, no specialist in any limited domain, has a right to assume the proposition that the headache is due to any one single well-defined cause until he is absolutely in possession of each and every fact in any given case.

John J. Moren, Louisville: I want to go on record as saying that no true case of migraine was ever cured by proper fitting glasses. You can lessen the number of attacks; you may influence the amount of pain, but you will never stop these true cases of migraine. That has been my experience.

With reference to what Dr. Griffith has said concerning headache in those individuals who have several indurated nodules in the muscles of the neck, I will say that if he will consult Dana he will find an article on indurated headaches which covers this point very well.

With reference to the question of diagnosing headaches, one should try to distinguish whether the headache is due to a hidden idea, as mentioned by Dr. Pope, or due to a hidden tumor. My method is this: I try to distinguish, if I can, the character of the pain. You have a patient with pain over the fifth nerve, a true darting pain in a definite area. What is causing that? Is it something in the blood? Is it something irritating the nerve? That will be your line of thought. If an individual comes in complaining not of headache but of a sensation as if he had a band around his head, or a sensation of weight, that is not a pain, but a sensation, it will give you a clue in looking for hysteria of neurasthenia, so-called. Look for eye strain; look out for various reflex causes. Study the character of the pain. In many instances there is nothing that helps me so much in diagnosing these cases as the location of pain. If a patient comes in complaining of a severe pain in the occiput, if she is a nervous woman, and the pains are severe and throbbing, you never see a brain tumor with pain located in the extreme portion of the occiput. If a patient comes in complaining of pain in the top of the his head, if it is in a male, look for defects in circulation. If it is in the female sex, look for anemia, neurasthenia or uterine disease. I have never found that test to fail me yet. Very frequently men will come in complaining of vertical headache. It may be a sensation rather than a pain. Study the circulation. The tension may be high. The patient may have a heart lesion, he may have kidney trouble, but I think you will find some difficulty with the circulation. My advice is to study the character of the pain and study the location.

J. A. Stucky, Lexington: I want to emphasize two or three points that have been made. It is very evident from the symposium and discussion that this great bugbear which confronts the medical profession—headache—is not clearly

understood and that after all the diagnosis must be made by exclusion. The internist tells us, as has been emphasized by Dr. Clark, that these headaches may be due to toxemia entirely, or that toxemia is the basis of the majority of cases of headache. What causes the toxemia? It may be intestinal. It may be accessory sinus trouble. If the sinuses are involved, how does that produce toxemia? By the production of pus? No! When the sinuses begin to suppurate and drain the headache begins to get easy. It is the negative pressure; the rarefaction of air in the anterior ethmoid cells in the sphenoidal sinns, in the frontal sinus that produces the pain, and let me say with emphasis and as a warning to our younger rhinologists, do not open and eurette the sphenoidal sinus unless you have evidence that there is pus and granulations there. Relieve the negative pressure first before you operate, or before you open the sinus.

How do refractive errors produce headaches and toxemia? By lowering vitality, and the power of resistance. I can take a little cotton wool and give any of you a headache and toxemia in twenty-four hours by blocking up the attic of the nose. There is retention of secretions, and the toxins result from these retained secretions. You know that retained secretions become pus or muco-purulent after a while.

In regard to what Dr. Willmoth said, we should always bear in mind the possibility of intracranial complications. I had hoped to have a case here this morning for several of you to see. I know the sphenoidal sinus is blocked up. I am not sure the patient has not cerebral tumor or ran abscess. He has wandered away from the hospital. But there is a possibility of cerebral presence, and a decompression operation is justified when in doubt. I think it is a good plan to be an all-around doctor. I want the bacteriologist to help me. I want to know what the urine shows first; I want to know what the ophthalmoscope discloses; I want to know what the rhinoscope reveals. If I have a refractive error to deal with, if I have negative pressure in the sinuses; if I have indican in the urine, I have got a typical case for the neurologist. We have a neurasthenic condition to deal with, and often we have to resort to the radiograph to confirm our diagnosis, in accessory sinus disease.

Infantile Scorbutus.—Comby has encountered only fifteen cases of scorbutus in a dozen years of pediatric practice at Paris; the disease is comparatively rare in France.

THE PRESENT STATUS OF SERUM AND VACCINE THERAPY.*

By F. H. MONTGOMERY, DANVILLE.

IMMUNITY.

The fact that one attack of certain diseases protects from subsequent infection of like nature has been known from the dawn of medical history, and the means of producing this protection artificially has been most diligently sought. Inoculations with smallpox and the cowpox virus were the first attempts that met with success.

Following the discovery of bacteria as the cause of most infective diseases and the development of accurate methods of separating and identifying these a tremendous step forward was taken. The modes of action of these bacteria by local growth followed by toxin production naturally suggested two methods of securing immunity: 1. The killing of the germs, thus preventing their growth and production of toxin. 2. The production of substances that would neutralize the toxins after they were produced.

THEORIES OF IMMUNITY.

Two prominent theories have been advanced to explain immunity. The "phagocytosis" of Metchnikoff and the "side chain" theory of Ehrlich.

Phagocytosis—Metchnikoff asserted that the leucocytes engulfed and destroyed the bacteria, and Leischman proved that they were capable of doing so, under favorable circumstances, in the test tube. Putting these facts together Wright began a series of investigations which led him to think that the presence of blood serum was essential to the process, as in its absence phagocytosis was practically suspended. Hence he deduced the theory that there were certain bodies in the blood serum that acted upon and prepared the bacteria so that the white cells could engulf them. These bodies he named "opsonins" (from the Latin *opsonare*—to prepare food for) and developed a technique for the measurement of the opsonic activities of different blood sera which he called the "opsonic index." He also found that by injecting the dead bodies of bacteria he could cause an increase of the opsonic index against the bacteria injected. The emulsion of dead bacteria he called a vaccine.

Side Chain Theory—Ehrlich, some years before the discovery of Antitoxins, published the result of studies into the metabolism of the body in which he advanced the theory that

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

the cells have side chains or links that reach out and bind to themselves, by chemical action, the nutritive particles, which are then transformed into protoplasm. When toxins and antitoxins were discovered he used this same theory to explain their action, asserting that similar side chains or links would reach out and grapple the toxins. In this battle if the toxin is sufficiently strong it will overpower the cell, causing its death. If the cell is the stronger it will have sufficient side chains or links to grapple and overcome all the toxin, but all the links which have united with the toxin will be lost to the cell and according to the hypothesis of Weigert a cell thus deprived of side chains will immediately begin to manufacture more chains to replace them, not stopping at a normal number but overproducing and throwing out into the blood serum free links which stand ready to act as an antitoxin to this specific toxin.

ANTIBACTERIAL SERA.

In addition to the theories that immunity depends upon either the ability of the white blood cells to kill bacteria, or to an antitoxic serum which neutralizes the toxins secreted by them, it has been demonstrated that there is another element that may enter into its production. By repeated injections of the virulent bacteria themselves into susceptible animals a substance is produced in their blood serum that has the property of dissolving bacteria. This is called "antibacterial serum." It is not antitoxic, nor is antitoxic serum bacteriocidal, as it is a well known fact that diphtheria antitoxin makes a good culture medium for the Klebs-Loeffler bacillus.

ACTIVE AND PASSIVE IMMUNITY.

When a vaccine is given it is with the purpose of stimulating the organism of the infected person to actively combat the invading germ, and an immunity thus secured is called an active immunity. On the other hand when an antitoxin is given it is with the purpose of neutralizing the poison in the system, and is termed a passive immunity. Clinically this distinction is of great importance as it is at once realized that to be successful in securing an active immunity one must have a patient sufficiently strong to react to the stimulus of the vaccine, while our efforts to produce passive immunity can be exercised without regard to the strength of the patient.

Speaking broadly phagocytosis and the side chain theory explain our present conception of the *modus operandi* of bacterial vaccines and antitoxic sera, and the characteristics of certain pathogenic germs give us a fairly reliable indication as to which is the more likely to confer the desired immunity. For instance we all know that the diphtheria and the te-

tanus bacilli produce their serious results by reason of powerful toxins that poison the cells of the human organism, which toxins are extra-cellular and secreted in the culture media in which the germ is grown. Such characteristic at once suggest an antitoxic serum. On the other hand the pyogenic cocci, especially the staphylococci, produce local purulent inflammations with little absorption of toxins, a condition that suggests measures to increase phagocytosis through the medium of opsonins. PREPARATION OF IMMUNE SERA AND VACCINES.

Antimeningococcic serum.—Flexner and Jobling have prepared an anti-serum for the treatment of meningococcic infections, which they claim to be antitoxic, antibacterial and opsonifying. It is made by injecting into the horse first increasing doses of killed meningococci then increasing doses of living meningococci and finally increasing doses of extract of meningococci.

Antitoxic Sera.—Little need be said about the preparation of antitoxic sera further than they are produced by the injection of repeated and increasing doses of toxin into a susceptible animal until its serum develops the desired antitoxic strength. They are standardized by taking as an "antitoxic unit" the amount that will just neutralize one hundred times the smallest dose of toxin necessary to kill, in four days, a guinea pig weighing 250 grammes. Antitoxins are made in large, well equipped laboratories under Government supervision, so that we can rely upon the open market for our supply.

Bacterial Vaccines.—Here the matter is different. The physician should make vaccines in every possible instance. He will, however, be limited by his ability to make successful cultures. In the first place personal or autogenous vaccines (i. e., those made from cultures from the person infected) are always to be preferred and in some instances are essential to success. And in the next place the prices charged for vaccines, with the exception of the tuberculins, are outrageously high. Any physician who is capable of making a blood count and a culture of a given germ can make a vaccine of that culture. The germs are grown upon nutrient agar of blood serum in an incubator at 37 degrees C., and should be used when twelve to twenty-four hours old. They are washed off the culture medium with 0.87 per cent. sodium chloride solution and thoroughly shaken to break up the colonies. A small portion of this emulsion is mixed with equal portion of normal blood, spread upon a slide, fixed, stained and the number of red cells and bacteria, in a number of fields, counted. From these figures the number of bacteria per cubic millimeter can easily be computed, as we know

we have 5,000,000 red blood cells in that quantity. The emulsion is kept at 60 degrees C. in a sealed glass tube for one hour. A small quantity is then incubated at 37 degrees C. for twenty-four hours to determine the absence of living germs. The remainder is diluted to the desired strength with salt solution to which 0.25 per cent. of acid carbolie has been added, and kept in rubber capped bottles.

ADMINISTRATION.

Antitoxic Sera.—The manufacturers of diphtheria and tetanus antitoxins have so perfected both their products and containers that we have to consider only the size of the dose to be given and the time of administration.

The prophylactic administration of each is important, but in the case of suspected tetanus infection it is of paramount importance as the antitoxin must reach and neutralize the tetanus toxin before it has had time to combine with the cells of the central nervous system. After this combination has taken place the antitoxin cannot neutralize the toxin as it is not taken up by the central nervous system. The prophylactic dose of tetanus antitoxin is 1,500 units given as soon after the injury as possible, and is supposed to protect for three weeks. After the development of tetanic symptoms large doses of antitoxin should be given, 15,000 to 20,000 units every four to eight hours.

In the case of diphtheria the prophylactic dose is 500 to 1,000 units and is supposed to protect for six weeks. When the disease has developed the earlier the antitoxin is given the smaller the dose needed and the better the results. Within the first twenty-four hours 3,000 units should be given and repeated in eight hours unless marked improvement is shown. Later 5,000 or 10,000 units should be the beginning dose.

Flexner and Joblings antimeningococcic serum must be administered directly into the subarachnoid space of the cord. A lumbar puncture is made and a small quantity of cerebro spinal fluid is withdrawn after which, without removing the needle, the injection is made.

Owing to the technical difficulties involved in its administration this serum has not been put upon the market but is in the hands of skilled men scattered over the country, thus insuring proper technique.

Bacterial Vaccines.—The injection of a vaccine is followed first by a negative phase in which the resistance to infection is decreased. During this phase the patient may show marked local and general symptoms, as redness and swelling at point of injection, chilli-

ness, fever, headache and backache. Following this is a positive phase in which the blood is flooded with opsonins and the resistance to infection much increased. Finally there is a decrease of the opsonic power of the blood but it remains higher than before injection. The aim should be to keep the phagocytic power of the blood at a high level over as long a period as possible by giving doses sufficiently small to avoid a marked negative phase, and by so timing the injections as to prolong the positive phase.

Vaccines are standardized according to the number of dead bacteria contained in a cubic centimeter. The following are the usual doses.

Staphylococci	.....	100 to	1,000 million
Streptococci	.....	10 to	300 million
Gonococci	.....	10 to	100 million
Bacillus Coli	.....	10 to	300 million
Bacillus Typhosus	..	10 to	100 million
Tuberculin	.....	1-1,000 to	10 milligrams

Sera.—One of the results of the administration of the sera that must be always considered is the so-called "serum disease." There seems to be two types of this. One type results from the first injection of serum, another follows the second and subsequent injections. The first type usually appears after an incubation period of eight to twelve days. The symptoms are fever, eruptions, often resembling urticaria swelling and pain in the glands and joints. The second type has a short incubation period, appearing often within a few minutes. The symptoms being similar to those of the first type. Sudden death, especially in asthmatics, following the administration of sera should be borne in mind. Rosemann and Anderson of the U. S. Marine Hospital Service believe that the essential lesion of serum sickness is localized in the respiratory centers, hence the danger of such injections in those with embarrassed respiration.

The prophylactic use of tetanus antitoxin offers our only hope of specifically combatting this disease. The belief is rapidly gaining ground that if it were administered soon after every wound made under circumstances suggestive of tetanus infection, that the horrors of tetanic convulsions would be a thing of the past.

After the disease is developed antitoxin seems to have little curative effect.

In diphtheria the use of antitoxin both as a prophylactic and as a curative agent stands as one of our greatest triumphs. Statistics from all over the world show a striking and uniform decrease in the death rate, and I fully believe there has been an enormous decrease in the number of cases. In my own experience with several outbreaks of diphtheria

I have never seen a case it did not promptly relieve, including two cases of laryngeal involvement. Further I have never seen a case develop after an immunizing dose, no matter how marked the exposure to infection had been.

Bacterial Vaccines.—Vaccines have been successfully used to combat with the following germs: Staphylococcus, Streptococcus, Gonococcus, Bacillus Tuberculosis, Bacillus Coli and Bacillus Typhosus.

Staphylococci.—In staphylococcal infections our results have been best. Furuncles, carbuncles, acne, syphilis, felon, sties and septic wounds have all been successfully treated. Our best results have been in cases where the infection has been localized upon the surface. Antigenous vaccines are not necessary, but the variety of staphylococcus causing the infection should be determined and its vaccine used. In those cases of recurrent multiple furuncles disseminated over the body this is almost a specific treatment.

Streptococci.—Here the results are questionable and our vaccine should be antigenous, on account of the number of different strains of the germ. When we remember that streptococcal infection are usually very acute, severe and not localized, and that death or spontaneous recovery occurs very quickly it is at once realized that there is great difficulty in determining the results of vaccine or any other treatment.

Gonococci.—In acute gonorrhoeal urethritis vaccines have been a failure. In epididymitis and gonorrhoeal rheumatism the results have been very satisfactory. In chronic gonorrhoea good results have also been gotten. On account of the difficulty of growing the gonococcus the general practitioner will find it impractical to make this vaccine.

Bacillus Typhosus.—Little has been accomplished with vaccines during typhoid but the prophylactic use offers most encouraging results. Those who are known to be exposed to this bacillus, as soldiers in camp, large bodies of workmen under unfavorable sanitary conditions and nurses, especially if within the typhoid age of 15 to 30 should have immunizing injections of this vaccine.

Bacillus Coli.—Good results are reported in chronic inflammations of the genito urinary tract due to this germ, especially in chronic cystitis, cholecystitis and in abscesses following operations involving the intestines.

Tubercle Bacillus.—The treatment of tuberculosis with tuberculin has narrowed itself down to infections of glands, bones, joints and those very early or subacute cases of pulmonary involvement. The prophylactic administration seems to me to deserve much more attention than it receives. We are all

familiar with those cases which are predisposed by hereditary weakness or environment, to tubercular infection, and the prophylactic use of tuberculin in such cases would be easy, harmless and I believe productive of great good.

In administering tuberculin we must remember that it is a toxin exactly the same as is being secreted by the germs which are growing in the infected patient. If the patient is running a temperature it is due to poisoning by tuberculin already in his system and by injecting more we are doing positive harm.

DISCUSSION.

Flora W. Mastin, Frankfort: After having had the pleasure of hearing Dr. Montgomery's most excellent and interesting paper, I feel considerable hesitancy in contributing my mite to so important a subject. To my mind too much stress cannot be laid upon the importance of serum and vaccine therapy.

Dr. Montgomery has already told you the reasons for the use of serums and vaccine, the different diseases for which they are used and the immunity expected, and I can add very little to what has already been so well said.

For convenience, we will divide the diseases in which serum therapy has been used into three classes: (1) Those in which its utility has been definitely established; (2) those in the experimental stage, and (3) those in which experiment has demonstrated that by our present methods immunity cannot be obtained. In the first class, in which it may be said that serum therapy has come to stay, we may group the following diseases and name them in the order in which treatment has been most successful and has inspired most confidence—diphtheria, tetanus, snake-bite and rabies.

In the second class, still in the experimental stage, but with a very promising outlook for serum therapy, are bubonic plague, acute epidemic, dysentery, typhoid fever, scarlet fever, cholera and anthrax.

In the third class, in which results have been unpromising, but from which we still hope much, are pneumococcus infection, tuberculosis and streptococcus infection.

My experience has been with serums in the first class of cases only, more especially with the use of anti-toxin in diphtheria, the prophylactic value of which is very great. I have never yet had a case of diphtheria in a person that had an immunizing dose of serum, although exposed to the disease in its most virulent form and hygienic conditions decidedly bad.

The curative properties of the anti-diphtheritic serum are now established beyond reasonable doubt, but to be most effective it must be given early in the disease. I learned from experience several years ago that this was so. I was called

seven miles in the country to see a three-year-old child that had, or seemed at that time to have, tonsillitis. The usual remedies were administered. The next day the child was no better, yet it was not really worse. The third day it had a marked case of diphtheria, nose, pharynx and roof of mouth covered with membrane. Upon inquiry I found that there was not then nor had there been for years a case of diphtheria in that part of the country, the parents seldom took the child from home and were extremely neat and careful. The patient was brought to town, in recumbent position, and given large doses of antitoxin, repeated several times during the next few days, but we had waited too long and the child died on the eighth day. I have always felt that if we had given the serum on the second day as a precautionary measure, the child might have been saved. It is just such experiences as this that make us suspicious of our sore-throat cases, more careful and reserved in our diagnosis, and always on the lookout for danger signals so as to be ready with the right thing at the right time.

With reference to any after effect of antitoxin, I have seen a slight urticaria in several cases that alarmed the family, but did not inconvenience the patient and disappeared in two days. Three cases of diphtheria in which antitoxin was given were followed by paralysis, and as this sometimes follows diphtheria, we cannot lay it to the serum, but it has its effect on the laity, and when this condition does prevail it is hard to persuade them to the contrary; especially was this the case in one instance in which a doctor (in our town) with little experience and less sense, informed the family that he never used antitoxin as it always resulted in paralysis or some other grave manifestation.

S. B. Marks, Lexington: I have enjoyed Dr. Montgomery's paper and am glad to have the opportunity of discussing it. Government supervision has done untold good in giving sera of known strength, purity and dependency. The field of serum and vaccine therapy is so vast and the amount of work done so enormous that eventually it would seem the pharmacopeia will become a dissertation on sera and vaccines and every pharmacy will become a laboratory.

As Dr. Montgomery has said, the antitoxic sera resolve themselves into antitetanic and antidiphtheric and little can be added to what has been said, but I would emphasize the author's conclusions in regard to antitetanic serum. Use serum early, as the toxin in nerve cells is not reached by antitoxin, and in large doses. Park, of York, advocates giving from 10,000 to 20,000 units intravenously and further subcutaneous injections after 12 hours, claiming thus 50 per cent of recoveries.

Second, use serum as a prophylactic whenever opportunity presents itself.

Wiedeman, of Munich, reports the case of a child in which 35 c. c. of serum of a boy 14 years old who had tetanus two years before, was injected, with recovery, using further injections of antitoxin. This suggests a new field for serum, but we must cure a few to get a supply.

Morse, of Vienna, has used antistreptococcal serum in malignant scarlet fever with marked improvement in 50 per cent of cases. Others have not been so fortunate.

An interesting report comes from Trembur, of Jena, who used sheep's serum in hemophilia in a 13-year-old boy, of eight years' intermittent duration, with injection of 5 c. c. sheep's serum and cessation of nasal hemorrhage in four hours. He bled again in two days, which was controlled by packing nares with serum gauze. Gums ceased to bleed after applications of serum. In a few hours a severe hemorrhage took place from ears, which was controlled by injection of 10 c. c. serum in each thigh, which was repeated two weeks later. He thinks this action is due to increased leucocytosis, thus increasing the ferment bearing cells. Human serum is now used with remarkable results in hemophilia.

The Pasteur Institute, of Paris, recently published the following report in regard to Wassermann reaction in syphilis:

There were 821 cases tested. Ninety-two per cent positive after duration of two years, and 63 per cent positive after duration of over two years; 0 per cent positive in 18 non-syphilitics; 70 per cent positive after paresis; 60 per cent positive after tabes. This test is not only a valuable diagnostic measure in certain obscure cases, but furnishes an excellent guide as to treatment and prognosis. We should treat until reaction disappears and can thus control treatment. Complex technique alone is against its usage.

Results of serum treatment of exophthalmic goiter are very different in different hands, some, among them Krumholz, of Chicago, claiming a lessening of all symptoms and often a decrease in gland and lessening of the exophthalmus. He uses the serum of thyroidectomized animals and insists on regulating the dose carefully, as too much aggravates and too little does no good. The treatment is transient and must be repeated from time to time.

It must be borne in mind in regard to serum disease that it is the serum and not the antitoxin that causes the disturbance and that often one lot of serum will cause trouble when another will not. So, if there is trouble, try another serum. A certain horse's serum may upset a certain individual.

The greatest advance in late years is the work of Flexner and Joblings in producing their anti-meningococcal serum. This serum in their own hands and in others reduce the mortality of cerebro-spinal meningitis from 75 per cent to 80

per cent to 25 per cent, with very few of the sequelaee formerly met with.

Flexner sums up the whole question as follows:

1. Early lumbar puncture and diagnosis with examination of fluid.

2. If fluid is turbid, inject immediately through puncture made 30 c. c of serum, not waiting for bacteriological report.

3. If meningococcus is found, repeat procedure for three or four days; if severe give second dose in 12 hours.

4. If the fluid is still turbid, in three or four days repeat the course.

5. The serum is good only in meningococcic cases and of no avail subcutaneously.

Hamilton, of New York, reports from the Vanderbilt clinic excellent results in the vulvo-vaginitis of children with vaccine of gonococcus. The period of treatment is much shortened in 85 per cent of cases. It is easy to administer, harmless, and does not injure parts or lead to masturbation, as the irrigations often do.

Hoobler, of New York, has had some excellent results in the use of streptococcic vaccine in puerperal sepsis and from other causes.

Josephus Martin, Cynthiana: I think we can congratulate ourselves on knowing the etiology of many of the acute infectious diseases, and of being able to apply successfully either vaccine or serum therapy to a number of them.

In the use of tuberculin, as the essayist has said, the prophylactic administration undoubtedly deserves more attention than it receives, especially as we know the number of predisposed cases to be enormous. But before this is done to any great extent the profession will have to recover from its early mistakes in the use of tuberculin.

An important point in connection with vaccine therapy is just how tubercular peritonitis is cured by operation. Is it not a fact that the cure is brought about as a result of inoculation when the abdomen is opened and the fluid is withdrawn? White, of Dublin, has shown that the tuberculo-opsonic index of peritoneal fluid was lower before operation than that of the blood, while after the operation both fluids, that is, the blood and the fluid which replaced that withdrawn, were higher than before.

FOR SALE.—To a man who knows Electrotherapeutics and has a thousand dollars to pay for the best office outfit in the best location in the best town in Kentucky. I will turn over my \$3,000.00 cash practice. Don't write unless you have the money and mean business. Address B. this Journal.

THE NECESSITY FOR PROPERLY SELECTED AND COMPENSATED CITY AND COUNTY HEALTH OFFICERS.*

By J. N. McCORMACK, BOWLING GREEN, KY.

During the past year, as has been done biennially for several years, the State Board of Health sent a circular letter to each of the 3,605 physicians making inquiry of the number of cases of sickness and deaths occurring in their practice during the previous twelve months from eight of the leading preventable diseases. The replies are not so full and accurate as will be available in future under the model vital statistics law, but a comparison with similar figures collected for other years enables us to make estimates of such value from them that every fiscal court and city council in the State should have the benefit of the information.

USELESS WASTE OF HEALTH AND LIFE FOR AN AVERAGE YEAR.

These returns indicate that for this particular year, which proved to be an average one, there were 13,436 cases of tuberculosis under treatment, with 6,541 deaths; 18,387 cases and 1,818 deaths from typhoid fever; 10,981 cases and 2,336 deaths from diphtheria; 18,240 cases and 1,642 deaths from the diarrhoeal diseases of infancy and childhood; 19,624 cases and 840 deaths from dysentery and diarrhoea in adults; 1,800 cases and 160 deaths from scarlet fever; 31,000 cases of gonorrhea and 16,250 cases of syphilis. This gives a total of 129,717 cases and 13,337 deaths in one year, and which is believed to be fairly typical of what is occurring every year, from these eight practically preventable forms of sickness. Diseases ought to be important to a family, state or nation exactly in proportion as they cause sickness and deaths and cost money, but this is recognized by few of our people. One case of cholera, yellow fever, bubonic plague, leprosy or other foreign pestilence would cause a panic in any town or county. A small fraction of these 13,337 deaths in a mine or railroad disaster would send a thrill of horror through the nation, but this daily tragedy of sickness and deaths from easily preventable diseases, so common that they are not feared, goes on before the eyes of every community in Kentucky almost without comment.

THE COST OF SICKNESS IN KENTUCKY.

As an economic problem, a phase of sickness seldom thought of by most people, the

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practical importance of the above facts to our fiscal authorities and people can hardly be overestimated. The estimate of our reporters of an average of \$94 for the medical care, drugs, nursing and loss of time for each case of sickness, certainly a very conservative one, places the total yearly tax upon the people of Kentucky for these eight diseases at \$12,191,398, nearly double the annual revenue of the State. But the actual loss is far beyond this. It has become the fashion to talk about conservation, limiting the term to farms, forests, water-powers, mines, factories and similar resources having recognized money value. As a matter of fact, men, women and children—people—are the greatest resource we have to conserve, and without people in such health and vigor that they can develop, operate and enjoy the farms and other things commonly called wealth, they have little more than an abstract value. Prof. Fisher, of Yale, the world's greatest authority upon the subject, tells us that the value of a human life gradually rises from \$90 in the first year, to \$4,200 when in full vigor, remains nearly stationary for a long time and then gradually declines until it becomes negative. He places the average value of lives sacrificed by preventable disease in this country at \$1,700. Making this the basis of the calculation and applying it to the 13,337 deaths from eight of these diseases last year, gives the sum of \$22,672,900. Adding this to the \$12,191,398 which it costs in various ways to care for those sick of them gives a total loss for the year of \$34,864,298. Enormous as these figures may seem at first sight it is believed that they underestimate the money saving which is entirely possible every year if all the people of Kentucky could and would observe the laws of health as now known to the scientific world in their daily lives. This cost of sickness is just as much a tax upon the people as if paid into the county, municipal and state treasuries, but no benefits are returned from it as is the case more or less with other taxes. It was this economic feature of sickness mainly, the useless and senseless drain upon the material resources and vitality of their respective nations, which induced Gladstone, Disraeli, Bismarck and others of like prominence in public affairs abroad to recognize and crystallize into laws and governmental policies the truth that "the care of the public health is the first and highest duty of the statesman." It will be noted that preventable sickness is discussed here purely as a business matter, no consideration being given to the inconvenience, suffering and sorrow it brings into the homes of the people.

FACTS ABOUT THIS CLASS OF SICKNESS WHICH ALL SHOULD KNOW.

None of these diseases ever occur or spread except from the germs or seed from a previous case. The exact method of spread varies with each disease, but competent physicians understand the conditions and laws under which they multiply and spread fully as well as the best farmers know how weeds spread. They know, for instance, that if all the expectorated matter and other infectious discharges from every case of tuberculosis now in Kentucky could be disinfected or destroyed until all of them either recover or die, or if all the discharges from the bowels and kidneys from every case of typhoid fever could be thoroughly disinfected before the vessels are emptied, our people would be freed from both of these diseases. If the people could be properly instructed the expense of preventing these diseases would be small compared with what it now costs to have them. The history of eight years of smallpox in Kentucky, from 1898 to 1906, is another striking example. To say nothing of the distress, suffering and loss of life, it is estimated that this disease cost our people over a million dollars. This seems strange when it is now well known to the scientific world that vaccination is an absolute preventive of smallpox, and that when properly done it is devoid of danger. Vaccination has long been compulsory in Germany and all comply with the law, with the result that for the last reported year there was but one imported case in their 62,000,000 population. The average cost of a successful vaccination for the public is 40 cents, the average expense of caring for a case of smallpox for the public is \$40, and yet in the face of this experience, over 40 per cent. of our people remain unvaccinated, enough in almost every community to spread the disease if a case is brought into it.

WIDESPREAD AND UNREASONING PREJUDICE AGAINST DOCTORS.

Most people are attached to their family physician, but few of them think or speak kindly of other members of the profession. It is but fair to say that this is largely a reflection of the way a majority of the physicians of the old school of the same community spoke of or treated each other. The profession came to recognize the enormity of this evil and the disaster it had brought upon the people, and it has become one of the most harmonious of the vocations, but the effect of this change has only reached the more intelligent classes and, while the individual doctor stands high with a few people, his patrons, the profession as a whole ranks very low in public esteem. As a matter of fact,

ours is the only vocation organized and working systematically against its own interests. In so far as it succeeds in preventing tuberculosis, typhoid fever and similar diseases it diminishes the incomes of its members. This is done because ours is essentially a humanitarian calling, in constant touch with sickness, suffering and death, and that it has been found far easier and safer to prevent than to try to cure these diseases. For much the same reason physicians do more charity every day in every year than all other vocations combined, and never take out a patent on a new remedy or invention. These things explain in part why the average income of the physicians of Kentucky is less than \$800. It is important that the officials and people be informed of these facts that a misconception of the purposes of the profession may not obstruct this most unselfish work.

THE STATE HAS AT LAST DONE ITS FULL PART.

The iterated and re-iterated opinion of President Taft, Mr. Roosevelt, leading senators and representatives in congress, educators, the press and others who mold public sentiment, in favor of a national bureau or department of health shows the growth of the movement in recent years. More important to us, our last General Assembly did more for the protection of the health and lives of the people than was done by all the others in the history of the State. It created a State Bacteriological Department, open free to every citizen, to assist in the early recognition of the communicable diseases; a Sanitary Engineering Department to supervise and try to aid in securing improvement in the water supply and sewerage systems for cities, towns and country homes; a Vital Statistics Department to secure complete returns and the uniform registration of all sickness, births and deaths in every county, and providing ample funds for operating such departments. No less important, provision was made for an annual school, with compulsory attendance, for the practical training of county and city health officers, with expert scientists and demonstrators from mother states and the national departments and our own members and officials, as teachers. That this school may be practical, an effort will be made to get the co-operation of the local authorities and make the sanitary conditions of some small city, and types of country homes near it, ideal as to water supply, sewerage, garbage disposal, street cleaning, school house construction and maintenance, dairies, bakeries, markets and the reporting and management of communicable diseases; with the appointments of the country homes complete for the promotion of health, and use these as object lessons.

WHAT COUNTIES AND CITIES MUST DO.

As previous legislation had made the other health machinery almost perfect, upon paper at least, the possibilities for practical life-saving work in every county and community are only limited by the extent to which the local fiscal authorities and people will co-operate in it. For it should be known that even with this advanced legislation and liberality there is little promise in this field in any county or city which does not have a well trained health officer who can devote his entire time to the duties of his office. In order to make it easier to bring this about, and in the interest of both efficiency and economy, it is suggested that, except in cities of the first class, systematic efforts be made to combine the city and county health offices so that both may be held by the same person. It should not be a political office and the tenure should depend upon the betterment of sanitary conditions as shown by a steady decrease in the sick and death rate. As no one can be a health officer of the kind for which I am pleading and practice medicine, the salary should be such as is given to circuit judges and other officials where a high order of capacity and unceasing devotion to duty are required. In fact, it would be just as reasonable to expect judges to support themselves by the practice of law while serving on the bench as to expect health officers to do their far more important and exacting work, requiring the highest order of training and judgment, and practice medicine at the same time. After careful consideration this Board recommends that the salary of the health officer should not be less than \$1,200 in the smaller counties and that it should be made \$1,200, that paid the circuit judges in most counties. He should be required to devote his entire time to the duties of his office, and the salary should not begin until he does so and until he has taken a course and obtained a certificate of his qualifications for public health work.

Let us no longer deceive ourselves or permit the people to be deceived about a matter so vital to them. Until we can have a health officer in each county and city so selected and supported that he can afford to fully qualify himself for it, and make the prevention of sickness his life work, most of what this board and the medical profession stand for, is but an idle dream in that jurisdiction. It should be known, too, that all of this is even more important to country people and those of small towns than to the residents of cities. Necessity forces the latter to some observance of the laws of health and, in consequence, the preventable sick and death rate is much lower with them than

with the farmers, who ought to be the healthiest people in the world.

THE DUTY OF THE PUBLIC.

If time permitted it might be interesting to discuss the elementary question as to whether the individual or the State should do any or all of this work. Between the socialist, who believes the government should do everything, and the individualist, who believes it should do nothing, there is every shade of opinion. As usual, the truth lies between these extremes. There is much to be done by the individual citizen, but in the matter of health especially, even if he knew his full duty and did it, there would remain much which must be done under public authority or he will perish. For, after all, the government is only a great partnership formed to do those things which the individual cannot do, or cannot do so well or cheaply, for himself. Each citizen cannot hire a policeman, or own a fire engine, build roads and bridges or employ capable teachers for his children. Each partner, the citizen, is forbidden to do those things which would be injurious to others, and each pays a certain sum every year, his taxes, with which the government hires done those things that are necessary for the welfare of all, the protection of health and life being among the most important of these, as has been already shown.

THE PROFESSION HELPLESS WITHOUT PUBLIC SUPPORT.

Can the rank and file of the present generation be so aroused to the importance to them of this reform that they will elect fiscal officials who will make it possible to bring the benefactions of modern scientific knowledge to every hearthstone? Failure to do so cannot be put upon the ground of economy. It is said that but one citizen out of every hundred has need for a court house except as a place of record for deeds, wills and similar documents, and yet they are taxed heavily to maintain these and swarms of other officials and activities of even less importance. While the medical profession is leading this reform from a sense of duty, it is really less concerned in its success than any other class and so long as the old order of things continues, and public and official sentiment demands that health officials and physicians shall devote their time and energies to the treatment and care of diseases which ought not to exist, the unnecessary toll upon health and life must continue, and its members can do no better than live off of the misfortunes and ignorance of the present generation, and attempt to educate the rising one to better methods of living.

DISCUSSION.

J. M. Mathews, Louisville: It is very seldom that a paper is read before this or any other medical society to which an objection cannot be raised. But this one presented by Dr. McCormack is so truthful, accurate and explicit that there is not a point to be mooted. I am sure that there is not a doctor here but will agree to every statement that he has made, and applaud his utterances. And yet this is strange, passing strange, for he asserts that, "As a matter of fact, ours is the only vocation organized and working systematically against its own interests." I sometimes wonder if the people at large appreciate this effort of the medical profession. While in England recently I was told that the efforts put forth by scientists, principally physicians, to stay the progress of disease, had been so effective that a number of physicians living along the course of the Thames had abandoned their practice, for their vocation had indeed been rendered unnecessary.

But, Mr. President, it is only to one single point in this most excellent paper that I wish to refer, or rather to emphasize, namely, "The necessity for properly selected and compensated city and county health officers." Dr. McCormack pleads for a "well-trained" health officer in each county, who can devote his entire time to the duties of his office. Now, this is the plain fact, and there is but one way to bring about this ideal state of affairs—select the proper man, let him become educated in health affairs, and then compensate him for his labor. It is preposterous to suppose that any man, either in city or country practice, is qualified to fill such a position without much preparation, for this is one of the well-defined specialties. Hence, it would take both time and money to fit him for the position. How parsimonious it would be to ask this man to serve without pay, or on half pay. How carefully has Dr. McCormack mapped out the fruit of this man's labor. Suppose that by his knowledge and energy he prevents one endemic from becoming an epidemic, has he not earned both his money and the gratitude of the people? Suppose that he prevents both endemic and epidemic by sealing up a contaminated well, has he not proven that he is worthy of his hire? The doctor quotes Professor Fisher, who says that the value of a human life rises from \$90.00 to \$4,200.00, according to age. Is it not strange that the people would object to an appropriation of enough money to pay the county health officer when, by his efforts, the family of the objector might be saved from sickness and death?

But, Mr. President, we must meet the conditions just as they are. However much we might desire that the people could see this matter as we do, it must be admitted that they do not. Now, what are we going to do about it? To my mind there is but one solution; we must change

their opinion and convert them to ours—the truth. But how? You cannot do it through the medical journals—only doctors read them. You cannot do it by talks in this or any other medical society—the people are not present to hear you. Permit me to say that you must give your views wide publicity. The best agents for doing this, in my humble opinion, are the daily papers and lay journals. In addition to these let each doctor consider himself a special committee to preach the gospel of health, how to acquire it and keep it. It is a hard and difficult task that Dr. McCormack has asked us to undertake. But look at the reward—preventing disease, saving human life. It is well worth the effort.

J. G. Carpenter, Stanford: I did not hear all of Dr. McCormack's paper, but I read it in advance last week. Most certainly the county health officer should be paid, and most certainly should the city health officer be paid, and the reason they have not been paid in the past is on account of the ignorance of the public. The people do not understand the importance of sanitation. They do not understand the great financial problems they are undergoing. They do not understand the great taxation we are subjected to from time to time, and that by the observance and regulation of sanitary laws, taxes can be reduced to one-third or one-half. It is not only important to educate the people in regard to the importance of this work, but the officers of the law, all the magistrates and county judges. Kentucky of all states has been behind in education and sanitary laws and is the chief of prodigal. One reason in the past why boards of health have not made more progress is that local boards have been appointed for glory, for self-esteem, and after being appointed they have been afraid to do their duty. I know as a councilor I was asked time and again to have certain ones appointed through Dr. McCormack, and when they were appointed it was an exception for them to do their duty. One member of the board of health, when called upon to visit a case of smallpox, resigned. He was afraid to go and do his duty. He was afraid of smallpox, in the first place, and of other consequences. If we can educate the people to appreciate the importance of this work we will have no trouble. Can we do it? Yes, I think we can. In my county the people are educated. I have delivered twenty-two lectures this summer to the churches in various parts of my county, and I have five more lectures to deliver. I have been invited out of my county to deliver lectures. I find the people are eager and anxious to learn. They want to know about the newer gospel; the better way, the right and true way. They are crying and begging for it. The harvest is ripe, but the reapers are few. It is a shame that we have not a national department of public health. The United States Government spends fifteen

million dollars a year in taking care of goats, sheep, horses and cattle, trees and plants. Generally but very little or nothing is spent by our government to take care of our fathers, mothers and children. Is not a mother worth more than a cow, a father worth more than a horse? Is not a daughter worth more than a sheep, and a son worth more than a calf, and a baby worth more than a pig? Let us quit fighting for men on political issues. Let us fight for men of the highest type, manly men, the men who will do things, and in so doing let us beg of the people to help us out. We must expect more of the county health officer than we have in the past. In our county boards of health have been a failure because the members have failed to do their duty. They have failed to educate the people. If you educate the people right, they will co-operate with you. In the places I have spoken they have invited me back, and have opened their churches and homes to me freely. Not only that, but they have extended to me every hospitality. We want teachers and sowers of good seed; teach from the pulpit, teach sanitary science in the school rooms and in church societies and business places and at the chautauqua; and when we get them taught we will soon have this whole thing settled.

The Vital Statistics Law will have much to do with educating the profession and public, and it is much easier to educate the latter than the former. When a law is passed requiring physicians to be re-examined by the State Board of Health every four or five years and the ignorant pretenders in medicine and surgery are weeded out of the profession—old things will have passed away—there will be a new order of things, a new creation. Every physician will be a member of his county, district, state and national societies and will attend the meetings, learn the better way, be posted and keep posted and work with the zeal, industry and fortitude of a Christian gentleman and American patriot.

Taxes must be reduced in Kentucky; one way to do so is to reduce the sickness—dispense with sickness, preventable diseases, preventable deaths and preventable undertaking expenses. The springs, streams and wells must not be polluted, the sewerage systems of towns and cities must be improved, sanitary dairies and pure public water supply must be demanded. Every year we are losing on an average of 13,337 deaths from eight preventable diseases, at a cost of \$22,672,900. To treat these cases, buy medicines, foods and hire trained nurses costs another \$12,191,368—a total loss to the citizens of Kentucky of \$34,864,298. This money should be saved and taxes reduced.

W. W. Anderson, Newport: There is one point at which we should begin at once when we get home. In a great many of our cities and towns and counties the people will be reluctant to believe that there is any advantage in appro-

prating more money for public health measures and activities in their community, for the reason that the money already appropriated and already being used is not bringing results. For instance, I know a certain locality in which the health officer is paid the meagre sum of sixty dollars per month. The duties are well worth one hundred and fifty dollars, but whether it is because he does not get one hundred and fifty dollars or for some other reason, he is giving about sixty cents' worth of service, and the people want to be shown something that is done for the money now being paid out. My point is this: When we get back home, let us get after the health officer in every locality and see that he does his duty—at least, that he earn the money he is now getting; and in order to do that let us strive to eliminate petty and party politics from our local, city or county boards of health, so that **men** will not be chosen as administrators of health measures for political reasons. I know a board of health that had but one meeting in a year, because there was a close balance politically and each side was afraid that if they met together the other fellows would put one over on them. As a united profession, let us make it unpleasant for the health officer who is a petty politician, and let us strive to get men who are sanitarians, or else make sanitarians out of the men we have got. Let us clean up what we have as a part in educating the people to do better.

B. W. Smock, Louisville: Mr. President and Fellows of the Kentucky State Medical Society: It affords me great pleasure to be called upon to take part in the discussion and to touch on some of the vital points in the address just delivered by Dr. J. N. McCormack, Secretary of the Kentucky State Board of Health, a man to my mind who is without a peer in America in this particular line—the great field of preventive medicine.

I feel my total inability to add to or to emphasize anything that he has said, but if you will bear with me, I shall take the time allotted to me and say this:

First—The necessity of qualification. We Kentucky doctors, the best part of whose lives have been spent in preventive medicine, have had but one school in which to qualify ourselves, and that the school of practical experience, presided over by the master of hard knocks.

Second. Should the health officer be well compensated? Most emphatically "yes," and, as Dr. McCormack has so strongly emphasized, this compensation should be in keeping with the work required and performed. His services are more valuable to the people than those of the Circuit Judge. In my experience as health officer, covering a period of twelve years, I have learned one very important fact, and that is, a man is paid according to his ability for the work performed and the results obtained. The reason

why the average Kentucky health officer is so little thought of or appreciated by the people is because he has not made good. He is usually incompetent, indifferent, lazy or generally no account. I do not believe that there is a fiscal court or city council in the State of Kentucky to-day, (as wide-awake as the people are to all live-wire propositions), but what an earnest, conscientious health officer, backed up by a strong will, tactful, with plenty of enthusiasm in the saving of human life, could not have the salary fixed at a decent, respectable figure. So I say, it finally resolves itself into the proposition of making good and being able to deliver the goods.

No health officer can do good service and do a general practice any more than a doctor can divide his time between the practice of medicine and the duties of a minister of the gospel. If you will bear with me and pardon the relating of personal experiences, I would like to say that in the good County of Jefferson during the past twelve years, the appropriation for the county health work outside of the city of Louisville has been increased from seven hundred and fifty dollars per year to ten thousand dollars the past year. Never have we, the Jefferson County Board of Health, had any difficulty whatever in securing at the hand of our fiscal court the money needed to carry on our work, when presented to them in a business-like way, and after their liberality in making the appropriations we have gone ahead and, with the aid of the State Board of Health and the hearty co-operation of the United States government, through its Bureau of Animal Industry, have gotten results.

In support of this statement of making good, our statistics show that we have reduced the mortality from diarrheal diseases of children under five years of age 20 per cent, and through the untiring efforts first of the State Health Officer, Dr. McCormack, Dr. M. K. Allen, formerly City Health Officer, who is now President of the Jefferson County Board of Health, and of the succeeding health officers of Louisville, the mortality from typhoid fever has been reduced 44 1-3 per cent; and the mortality from scarlet fever and diphtheria has been reduced 39 per cent.

As to tuberculosis, statistics show in the face of the fact that there is more energy being spent by both health officials, the fiscal courts and a number of philanthropists, that the mortality from this disease has increased 1 per cent. The explanation of this lies in the fact that the health officers have been more careful and painstaking and are collecting statistics from all cases now, where heretofore only one-half of them were reported, so I emphasize the fact again that we are giving the people something for their money.

I hope the statement of these plain facts may be an incentive to other health officers. Formulate your plans, go to work and get returns.

—remembering we have in the new Vital Statistics Law, recently enacted, the best law ever passed in the state to aid health officers.

Encourage and try to bring together all people interested in the several anti-tuberculous societies, and center your heavy artillery on all preventable diseases, tuberculosis, typhoid fever, etc., for they must be put down, and it is up to us health officers to lead the way.

I thank you most sincerely for this opportunity to be heard before this distinguished body on so important a subject.

W. W. Richmond, Clinton: I wish to say that I have been connected with the County Health Board of my county for a number of years, and having been for seven or eight years councilor of the first district of this Association, and having become quite familiar with the work of the health officers not only in our own county, but in the counties of the first district, I think I am entitled to speak with some authority on this subject. I have become thoroughly convinced that the present system of conducting the work of the health officer is a failure. I think the only way it can be done successfully, as has been suggested by Dr. McCormack, is through the work of the health officer who is appointed or elected for the full time, giving his entire time to that one thing. If we will examine the statutes setting forth the duties of the county health officer, and observe those duties that are set forth in the statutes, we will see that no man can fill that office, as required by law, without giving it his full time. Under the present plan our health officers are doing nothing. There is a good reason for it. They have not time to do the work of the health officer and make a living practicing medicine.

I have made in my county and in the adjoining counties of the first district a number of talks to the people in open sessions and in meetings appointed for that purpose, and in the last year I made eight talks before public meetings arranged for the purpose, before teachers' institutes and farmers' unions. In every instance I have advocated the election of a health officer in each county for his full time and on full pay. I found generally the people were absolutely more interested, according to their knowledge and understanding of the matter, than the medical profession. They are ready and willing and more than anxious to co-operate with us in the great work that is before us. Therefore, if we can so educate and enlist the people in the various sections of the state upon the great question of public health, we will be enabled to obtain such legislation that will guarantee a better system of public health work.

THE FORUM.

Livingston, Ky., Oct. 17, 1910.

To the Editor:

Seeing the report of Dr. Henry M. Pitman in the Journal of Aug. 1 is my excuse for reporting the following:

Patient J. P., a female, white, age 2 years and three months, family history—father and mother seemingly perfectly healthy, two sisters died about four years ago of a similar affection, having an eruption, one five and the other three summers before death, dying at the ages of nine and five years respectively, family does not use corn meal (family story.)

Patient's history: Began in the autumn of 1909 with small eruption on back of hands and back part of neck, which abated when winter came, but began again in the early spring of 1910, the eruptions reappearing on the hands and face, with additional eruptions on the feet and lower legs (which were exposed.) These eruptions resemble a burn which scales off, leaving a red, dry surface, repeating this action every few weeks. She has ulcerative stomatitis, emesis, anorexia and dysentery, with green and coffee-ground stools, extreme nervousness and irritability, with congestion of the face upon the slightest exertion. Patient seems slightly better at present (Oct. 10.)

Some of the peculiarities: The third and the fifth in order of birth were the two that died four years ago, while the others were unaffected they were all living and had a chance for infection, except the second, which died previous to this from some other cause. The one now affected and a younger sister then being unborn.

Both parents are of a dark complexion, only the children of a light complexion are affected. Those whose complexions are dark seem immune.

The playthings of the ones that died seem to be the only fomite. This seems to be a case of pellagra, and I would like to hear from others of the profession.

W. H. JOYNER.

To the Editor:

At a recent meeting of the Kentucky Association for the Study and Prevention of Tuberculosis it was decided to equip a Traveling Tuberculosis Exhibit and send it through the entire state. At the same time the exhibit is shown in a town there will be meetings held and illustrated lectures given by prominent physicians and laymen, thus showing the people in a graphic way the extent of tuberculosis and how to prevent it.

Every effort will be made by the Association to get the co-operation of the medical profession, and where possible, get the doctors to give the lectures. Ministers and school teachers will be enlisted in the campaign, with the hope that

through them the propaganda will be carried into every home in the state. It is believed by this Association that this is one of the most practical methods in bringing the question of the "Conservation of human life" before the people. Special invitations will be sent to all public officials and legislators inviting them to take part in the meetings and in this way get their interest for favorable legislative measures on public health problems.

Any doctor in Kentucky who is interested in tuberculosis and wants to give public lectures can procure a very good lecture outline and other printed matter free of charge by writing to the Secretary of the State Tuberculosis Association, Eugene Kerner, at 215 W. Walnut street, Louisville.

COUNTY SOCIETY REPORT

Adair.—The Adair County Medical Society met to-day, and while we had only a quorum, we had a very profitable meeting. The members present were: E. T. Sallee, President; U. L. Taylor, Secretary; William Blair, W. F. Cartwright and S. A. Taylor.

William Blair read a very interesting paper on the "Mad Stone." He showed us a specimen, but the stone that he exhibited did not look at all mad. It was a very quiet looking specimen of geology. But its history was all right. It came from the left kidney of a blind horse that died on the Harvey Ridge in the dark of the moon, principally of starvation. He had four which came from the same horse, and yet that horse, so far as the record shows, was never mad in his life. The doctor gave us a very interesting history of the rise of the mad stone fad. He said that if he were bitten by a rabid dog, nobody should ever put such a thing as that on the wound. In the discussion that followed, **U. L. Taylor** told of the law that was once passed by the Kentucky legislature, allowing and directing Adair County to buy a mad stone for the benefit of the people of the county, to be kept at the county seat, to be in the hands of a man elected for that purpose. Some editor in the western part of the state, seeing the bill, proposed to amend it by allowing Adair County to employ at the public expense, a Witch Doctor. There was so much fun made over it that there never was an effort made to enforce it. But there is such a law upon the statute books to-day and it has never been repealed.

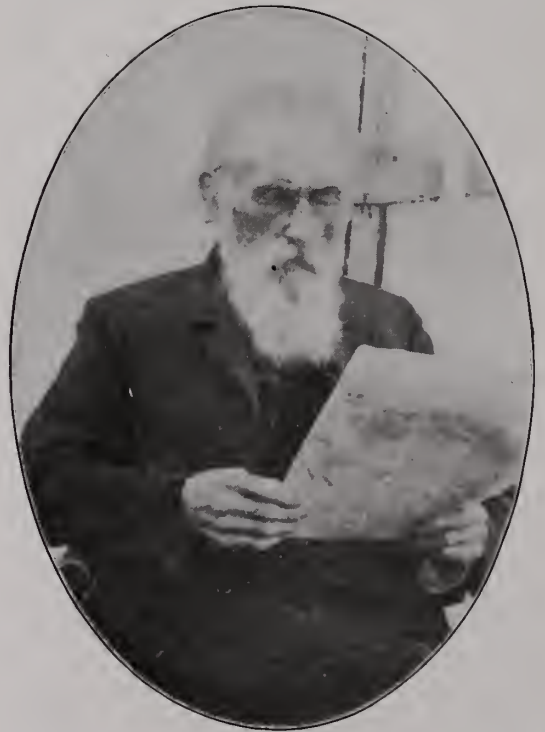
U. L. Taylor read a paper on Medical Societies. The class of doctors for which it was intended was not present to hear it, and if it were published, that same class would, perhaps not, read it. The Secretary called up the circular letter addressed to all the doctors on the subject of the Medical Defense Fund. All of them had received the letter, and each one agreed

to take advantage of it. The Secretary said he had talked to a majority of the doctors in the county on the subject, and all had agreed to the very liberal proposition. We told them all that in order to take this offer they must have the money ready some time before the beginning of the next year. For so small a meeting, it was a very pleasant one and a very profitable one.

U. L. TAYLOR, Secretary.

McLean.—The regular meeting of the McLean County Medical Society was held in Calhoun, August 9, 1910. Our Councilor, Dr. Griffith, was present, also W. B. Miller, the first president of our Society, which was organized Tuesday, August 4, 1874, on which occasion he delivered a presidential address which I send for publication. The minutes show at this meeting able reports were read on the subjects of Surgery, Obstetrics, Medical Ethics and Hygiene by A. H. Bryan, A. F. Watkins, D. D. Robertson and W. B. Rose. The Association was addressed by W. H. Hillsman upon the necessity of further legislation on the subject of medicine. The Society adjourned to meet again the first Monday in November.

W. B. Miller, whose portrait is published herewith, delivered the following address, which was his inaugural address before the Society on Aug. 4, 1874:



A knowledge of the healing art pre-supposes a knowledge of disease; a knowledge of disease involves a knowledge of health; a knowledge of health embraces the idea of a normal standard

for the whole man, physical, mental and moral. The study of a being so infinite in his relations, objective and subjective, who touches in his being both Heaven and earth, who is in the ascending chain of creation the dividing link between matter and spirit—between mortal and immortal—demands of its votaries a grasp of intellect, a power of discrimination, a strength of judgment, a singleness of purpose and purity of life attributable only to angelic nature.

Our profession may be fitly compared to a huge lense whose function is to gather converge and bring to focal bearing the rays of light springing from a field as broad as earth and as high as heaven.

Who, then is sufficient for this work? If I invoke the oracles of the past, the gloomy response will be "no one!" As there is no divinity in the inspiration of science, it is vain to address the future, but when I turn to the present I am inspired with buoyant hope, and I thank God that He has granted me my allotted span of life in this, the latter part of the nineteenth century.

While I am conscious of how insignificant must be the results of individual achievements in this vast field, I rejoice in the contemplation of the aggregate work accomplished by thousands of our co-laborers, scattered over the broad domains of civilization. Modern invention has brought the brotherhood of science in every corner of the earth, however remote, into intimate relation, and daily, weekly and monthly communication. The aggregate wisdom of all may thus become the common property of each individual, so that we strike, not with the arm of one man, but with the united strength of a hundred thousand trained athletes.

But, gentlemen, while we are proud to be identified with this magnificent host, who are battling with us in the common cause of humanity; while we recognize our obligation to contribute liberally to the common stock of medical knowledge, let us not forget the no less imperative duties we owe to each other as individuals, treading the same hard path of life.

In every age the benefactors of our fallen race have usually been its victim, or at least the marked subjects of neglect and ingratitude. In moments of anguish and terror, when death spreads wide its skeleton arms to embrace the forms of loved ones—when the only hope under God of restoration to life, love and usefulness is through our skill—it is then that the physician appears a ministering angel. In the eloquent language of another, "How they watch his every look! With what breathless earnestness do they hang on his words! And those words, how they wing themselves to the souls of the hearers for sorrow or for joy!"

If death is inexorable, we sooth the pangs of dissolution and rob this dreadful ordeal of half its terrors. Not only do we sooth the pains of

the tortured body, but it is our blessed privilege to whisper hope to the shuddering soul that stands trembling on the verge of eternity, and point him to the Great Physician who will go with him, even "down into the dark valley and shadow of death." But often through our agency life is restored, with all its enjoyments and privileges—with all that life means in its probationary character. It would appear impossible that an obligation so sacred and of such tremendous import could be ignored by rational men and women, yet how soon is it apparently forgotten; or, if remembered, believed to be fully cancelled by the pitiful fee, too often grudgingly paid, after all other debts have had insulting precedence.

The general impression appears to be, that our lives are comparatively idle and luxurious. The majority know little or care less for the days and nights of anxious toil, often without hope of fee or reward; of our loss of natural rest, and exposure to extremes of heat and cold; our privation of nearly every social privilege and enjoyment; our gloomy and continual walk with sickness and sorrow; of the enormous strain upon the whole man, unavoidable in the conscientious discharge of our duties, fraught with the issues of life and death; of the ungenerous exactions forced from us by a mistaken or ruthless public sentiment, in bearing almost the entire burden of expense in support of the indigent sick; of our bitter mortification and discouragement in witnessing the patronage bestowed upon the charlatans and imposters, who insult our honest poverty with the bloated importance derived from their ill-gotten wealth.

Gentlemen, I assert that the physicians of McLean county, during the last thirty years, have been the most laborious and least prosperous of any body of men of equal merit and intelligence I have ever known. A few of them with commendable prudence have connected successful traffic, or farming, with professional pursuits, and thus, alone, escaped the skeleton embraces of poverty.

I became a citizen of this county in 1844. I am now the oldest practitioner within its bounds engaged in the active duties of the profession. Where are my contemporaries, and what of their history? Rufus Linthicum, Sr., after a struggle of twenty years, carried his clear head and ripe experience to Henderson county, where death arrested his career when he was rapidly retrieving the success denied him in this hard locality. John M. Johnson, after a struggle of fifteen years, carried his brilliant talents to another state, where his distinguished position as teacher in a leading medical school and a large and lucrative practice in the city of Atlanta, Ga., proclaims a just appreciation of his worth. You are all familiar with the distinguished and successful career of W. D. Stirman in our neighboring county of Daviess. He had the sagacity

to leave before he was materially damaged. The gifted James T. Wall abandoned his native country in disgust and died early in the field of his adoption. D. A. Lynthicum, after years of manly effort, backed by a reputation for solid qualifications second to none in his age, carried his skill to another state, where he is reaping the reward due to his energy and talent. D. F. Dempsy, who had few peers as a practitioner and no superior as a Christian gentleman, was compelled to seek a more genial locality. The talented Moore carried his disappointment to a suicide's grave. The able Berry became so discouraged that he abandoned at once the country and his profession, but has since resumed his profession, and is at this time a rising man in Louisville. Lackland, grown gray in the service, has abandoned the field. The three Moormans are in the act of leaving. A. D. Cosby perished in the struggle. After years of unrequited toil, his sun of life fell from its meridian and went down in a cloud of darkness, sorrow and poverty. A score of lesser lights whom I might mention have shared the fate of their illustrious predecessors. So runs the sickening record, from ominous beginning to disastrous end for all those sufficiently hopeful or so foolishly daring as to remain in this ill-boding locality. But the most astonishing feature connected with this subject is the fact that after such a lengthened probation, with line upon line and precept upon precept, we are still driving in the same old ruts—still sticking in the same old bogs. Scourged by poverty, torn by dissention, lacerated by misconception, we exhibit an astounding example of heroic endurance and donkey stupidity in voluntarily perpetuating our miserable condition.

Gentlemen, there must be cause for this other than those growing out of a want of discriminative appreciation on the part of the people among whom we labor. I have known this people for thirty years, not superficially, but intimately, and in point of intelligence and liberality, other things being equal, they will compare well with any community in the state. Why, then, should such people refuse merited appreciation or an adequate reward for services faithfully rendered? My honest conviction is that much of our trouble and failure grows out of the character we have mutually given ourselves. In place of harmony we have encouraged discord; in place of unity, division; "A house divided against itself cannot stand." Our moral influence as a class, our prosperity as individuals, have been sacrificed upon the altar of our implicable feuds. The people may be slow to perceive the extent and value of the unselfish sacrifices we all make in the cause of humanity, but they are quick to discover and prompt to take advantage of the weakness originating in our dissentions.

Gentlemen, the remedy is obvious. Our organization is one step in the right direction. It

facilitates a better understanding among ourselves. It enables us to go to the people with the emphasis of our united voices and say to them that we have reached the descending point, ruinous to ourselves and hostile to their own best interest, to show them that if there is a character on earth whose vocation demands the best and most untrammelled exercise of all his faculties, it is the physician—the man whose daily occupation is to deal with the springs of precious human life—to convince them of how impossible this is to the man who is daily and hourly harrassed by the petty expedients of poverty—to explain to them the character and cost of material required for prompt, efficient and successful work—to illustrate our position by the labor-saving, time-saving, cash-saving economy of the farmer in liberal expenditure for the best implements and best labor in their agricultural operations, and my word for it, such an appeal to their good sense will not be fruitless. If, through long-continued and suicidal strife, we have saddled ourselves with a burden of public charity of sufficient weight to bend if not break the back of a rich banking corporation—if thus we have been lead to establish the custom of unlimited credit for services upon which our families depend for daily bread, while all others sternly require of us present payment—the only method of escape from the dilemma that I can perceive is to summon our moral courage, acknowledge our sins, appeal to the good sense and magnanimity of our patrons—show them the impossibility of meeting the imperative demands of necessity under such a system, and at once adapt our customs to the character of our circumstances.

D. M. Griffith, Councilor, says:

"I had a most delightful visit to McLean County Medical Society last Tuesday and found there one of the most remarkable instances of longevity, in Dr. Miller. He is 90 years old and he practiced until he was 80. He has been one of the brilliant men of the profession and is a man of high literary attainments. His mind is as clear and active as a man of 30 and is in a physical state of preservation, having walked one mile out to the meeting ground and one mile back in perfect comfort, and made a talk that would have done credit to any doctor in the state.

"Some doctor found in an old paper an address that he delivered to that Society as its first president, in 1874, and they requested me to read it to the Society, which I did, and it was a gem in every sense, as you will see, as the Society voted that you publish it, with a sketch of Dr. Miller, in the Journal. If you could meet this man and see how well up he is in modern medicine in all its phases, you would realize what an inspiration such a publication would be to the young men of the state."



ANCIL D. PRICE, M.D.

At One Time Secretary and President Mercer County Medical Society; President Kentucky State Medical Association; Representative of Kentucky in the House of Delegates of the American Medical Association; Medical Referee for Mercer County Since 1888, and County Health Officer Since 1878. Died November 11, 1910.

KENTUCKY MEDICAL JOURNAL.

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EDITORIAL.

DR. ASMAN'S REMOVAL.

It is a matter of much regret that the JOURNAL announces the removal of Dr. Bernard Asman from Louisville to Hot Springs, Arkansas.

Dr. Asman has been for many years one of the foremost proctologists in the south. The demand for his extraordinary skill in Hot Springs will doubtless be great, and we predict for him a most successful career there.

It will be a pleasure for his friends in Kentucky to know that he has associated himself in the management of the Ozark Sanatorium, and that they may refer general cases to this sanatorium or to Dr. Asman with the knowledge that they will be properly cared for.

KENTUCKY'S VITAL STATISTICS LAW

It is well on the eve of the operation of our Bureau of Vital Statistics Law to review some of the benefits of such a system, to the end that there may be a uniformity of feeling and a concentration of effort in the successful operation of this law. To the utmost co-operation and hearty support of the physicians of Kentucky the efficiency of this Bureau will be due.

The value of the Bureau of Vital Statistics to the physician may be summed up in two words—educational and practical. By a careful study of the statistical tables, the death rates of the various diseases are determined; the relative birth and death rates are secured; the ratio of preventability of diseases is computed; the effects of occupations, age, color, nativity, conjugal relations, residence are traced in their relations upon the lives and health of people. All this enables the physician better to understand the applications

of his science and art to lessen human suffering and to preserve and prolong life.

The records of death and classified reports of infectious disease in his own community will better enable him to trace the hitherto inexplicable outbreaks of endemic and epidemic diseases and to apply the proverbial "Once of Prevention."

The value of the records of the Bureau of Vital Statistics to the people will be infinite, involving questions of sociological, economic, sanitary and historical character.

In the matter of descent, in the relations of guardian and ward, in the disabilities of minors, the administration of estates, the settlements of insurance and pensions, the requirements of foreign countries concerning residence, marriages and legacies; in voting, in jury and military service, in the right to practice in the professions and to hold many public offices, in the enforcement of laws relating to child labor and the irresponsibility of children, in determining the age of consent, the original birth and death certificates made immediately at the time of their occurrence will furnish, as provided by law, indisputable proof.

The value of the Bureau to the state and health officials of the state can be safely gauged when it is stated that the records of that office will constitute the basis from which the activities and life-saving endeavors of the State Board of Health will receive direction. All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws. The nation needs accurate and uniform vital statistics for the entire country, and these can only be collected by a thorough enforcement of laws in all of the states. At present the total number of people in the registration area number 53 per cent.

The results of preventive measures can not be intelligently measured without a compre-

hensive system of Vital Statistics. The importance of these records can best be understood when we consider the relation Pennsylvania bears toward its Bureau of Vital Statistics. That state spends \$3,000,000.00 annually for public health work and at the International Congress on Tuberculosis, held in Washington, D. C., 1908, at the exhibit which Pennsylvania had there, the state sanitary authorities selected as first and fundamental in importance among the six modes of activity for fighting tuberculosis the collection and tabulation of Vital Statistics.

Vital Statistics can be of its highest value only when they are uniform and complete. With this end in view, the American Public Health Association and similar organizations the world over have worked unceasingly to perfect a system of Uniform Vital Statistics. A means that is working rapidly to accomplish their efforts is found in the very complete and satisfactory "International Classification of Diseases and Causes of Death." A list of satisfactory causes of death and one of unsatisfactory and unscientific causes of death is incorporated in each copy of the State Registrar's "Instructions to Physicians." This is the result of uniformity of opinion of the foremost medical men of the entire civilized world, and if the physicians will study carefully these returns as causes of death in the "Death Certificates" which they are required to fill out, not only will they be furthering the effort to adopt an international nomenclature (which we all want and must have) but they will save themselves and the Bureau an endless amount of useless correspondence, for the State Registrar will return all certificates of death for correction when the cause of death is not properly given.

With the successful operation of the law in seventeen states as an example and precept, Kentucky medical men need no further incentive to unite their efforts to make Kentucky's Bureau as good as the best.

PHYSICIANS' INCOMES.—BAD BUSINESS METHODS.

Among the many causes of low incomes in medical practice, bad business management holds a prominent place. The doctor is proverbially a poor business man. In proof of this popular opinion it is often cited that the medical man is notoriously an easy mark for the "sure thing" investment promotor. Many of us have been spared the humiliation of giving a personal proof of this indictment because we have never been deeply enough in the financial "swim" to have had a chance to "bite."

But even though it be true that we are poor investors, the fact is not in point for present purposes, since we are considering

professional income. There is another count in the indictment, however, to which we can only plead guilty. We are very generally poor collectors. We are inexact in keeping accounts, slow and irregular in presenting bills and lax in securing settlement. Why?

More important than any other reason for the business laxity of physicians is the fact that they are not as a rule much interested in the business side of their work. This is especially true of the better class of doctors. Their attitude toward the financial features of their work is illustrated in the story of Hunter, of whom it is related that when disturbed in his laboratory by the ringing of his doorbell, he would impatiently exclaim, "Well! I suppose I shall have to go down and earn that cussed guinea; I am sure to need it tomorrow." It is easy to get medical men together for a banquet or social occasion. It is not very hard to sustain their interest in study and mutual instruction in society and post-graduate work. But it is next to impossible to maintain among them any sort of business organization or united support to mutual business protection.

The professional side of practice is far more interesting and requires arduous and continuous effort, leaving little time or power of thought for the business side. Perhaps it would be well for the doctor to make his wife not only his treasure but his treasurer and bookkeeper.

The origin of professional medicine, its traditions and history are all against success on its business side. When the healing art got beyond the family circle it fell to the priesthood, and the ministry of healing became the work of the cure of souls. This was natural enough, because from the dawn of history for many centuries disease was commonly believed to be of spiritual origin. The exercise of the healing art was chiefly the exorcising of evil spirits.

The support of the priesthood was provided for by law or custom and no special remuneration was required for services to the sick, though free-will offerings were encouraged. In the course of time the care of the sick became a separate function from the care of the soul and the practice of medicine became a calling without the priestly support and dependent upon the free-will offering or *honorarium*.

As medicine became one of the learned professions and attained the dignity appertaining thereto, the custom of the honorarium was continued, because it seemed beneath professional dignity to make charges, present statements and collect bills like mechanics and tradespeople.

In addition to these historical and tradi-

tional hindrances to collecting our accounts, the nature of our relation to our patients adds a further difficulty. That relation is a peculiarly personal one. It is not "a mere matter of business," like the exchange of merchandise for money at market prices or the laying of brick at so much per hour. It is not even like the relation of confidential clerk to employer, for that is a business confidence and ours is a personal confidence.

Again, the business employer is the superior and directs the activities of the employe. In our case the employe is in the superior position and directs the patient who is the employer. Thus the superior must look to the inferior for his pay. The peculiarity and intimacy of this relation makes the presentation and collecting of the account embarrassing to a degree that cannot exist in ordinary business.

Add to this the fact that warm friendship very often, perhaps usually, grows out of the intimate contact of physician and patient, and we have the added embarrassment of presenting a bill to a *friend*, not a mere debtor, and on his part the added negligence in paying a *friend* who is not an ordinary creditor.

Out of the foregoing arises another source of business laxity among physicians, viz: the fear of giving offense by sending and collecting bills, and of thus losing patients. It cannot be denied that there is some ground for this fear, especially in communities where medical business is still conducted on the traditional and personal basis.

The welfare of the people, to say nothing of the rights of the profession, demands that the old basis be abandoned. The financial high pressure of modern times makes it impossible for the physician to secure a proper income on the honorarium plan. We cannot prosper if patients are to pay what they please when they get ready, and the poorly paid doctor cannot long continue to be a good doctor. The people must be taught the necessity and the reasonableness of prompt settlement of doctors' bills. Because ours is naturally a credit business we must not allow them to infer that the credit is unlimited in time of amount.

The specialist has been much condemned for commercializing the profession and in some respects he has been blameworthy. But he has done this good service—he has adopted the custom of monthly statements of account and a reasonable insistence upon payment. His example in this respect is worthy of imitation. Monthly statements will make a better bookkeeper of the doctor and prevent disputes as to amounts due, for the facts are easily established while fresh in the mind. The bill is less liable to outgrow the patient's

ability to pay if he is reminded of its growth monthly. He is also much more likely to seize the first opportunity to pay a recent bill than an old one. Time seems to confer upon the debtor an immunity to the sense of obligation to pay. The monthly bill will require a little more work and a little more postage, but it will pay. All that is necessary to its success is a fairly organized profession unitedly putting the plan in operation.

W. W. A.

SCIENTIFIC EDITORIALS.

THE GYNECOLOGIST AS AN EXPOSITION OF EUGENICS.

"Life is as fathomless, as wide, as terrible and yet as calm and beautiful as the sea. And thou must sail upon this long, eventful Voyage. The wise may suffer a wreck. The foolish must."

Ours is an age of specialists. In every department of the great workshop of human activity men are coming more and more to recognize the truth which Emerson expressed when he said: "Nature arms each man with some faculty which enables him to do easily some feat impossible to any other." Not only do we find that by nature we are particularly adapted to a certain line of work, but by special training, special study and larger experience these special faculties are developed and become more and more effective. While this tendency is noticeable in practically all trades, in business as well as in professional life, nowhere is it more marked than in the practice of medicine. It is equally true that in no other science have greater advances been made.

The field is now far too broad—the mass of knowledge which is embraced is far too great for any man, within a single life to compass the whole or any considerable part of it. If he would do good work, if he would acquire that degree of knowledge and skill which should be usual and customary in his community, he must of necessity choose a part—he cannot master the whole of this great and ever increasing science, which in its application becomes an art.

And among the long list of medical specialists there is perhaps not one more exacting in its demands—both as to natural qualifications and special training than is gynecology.

The ideal gynecologist is a gentleman by birth, a gentleman by nature and therefore always a gentleman in practice. His conception of his duty to himself and his duty to his patients is not measured by the bare requirement of the law. He has some appreciation of the sanctity of motherhood—the

mystery of childhood, and has tender regard for those human relationships which make life worth living. He had a good mother, he should have a good wife, and his education is sadly incomplete if he has not healthy, happy children of his own.

Granting this to be true, does it not follow, in obedience to the law of "*noblesse oblige*," that the gynecologist is called to render a particular service with reference to the Science of Eugenics? But what of this new science—new only because its principles, thru all ages of the world have been carelessly overlooked, ignored, blindly disregarded, altho at a cost to the human race more terrible and more stupendous than we shall ever be able to compute. For those to whom the very word is new and without meaning, we can perhaps not do better than to refer to an admirable discussion of the subject which appeared in June of the present year from no less an authority than the professor of medicine in John Hopkins University, Dr. Lewellys F. Barker—from which we quote:

"If it be true as the human race advances and the range of intellect widens, the tendency is to work for the future of humanity as well as for its present good; if, from the time of Plato to our day, the best minds have cherished the idea of a more perfect state, and have urged the suppression of human baseness and the creation and the appreciation of a 'superman,' if modern science has placed in our hands the key which unlocks the box containing the secret of race ennoblement, namely, the picking out by preference of the racially superior for parenthood combined with the protection of childhood and the support of maternal care by fatherhood—if these be facts, then the phenomena of sex may ultimately come to be regarded by more people with awe; parenthood will be looked on as the noblest and most sacred of functions, entailing the heaviest responsibilities, and the science which deals with all the influences that improve the inborn qualities of a race" (Mr. Francis Galton's definition of Eugenics,) will become a constituent of the higher human religions.

The science which has for its object the prevention of the unfit and undesirable, and the improvement of the race by furthering the productivity of the fit and the desirable by early marriages and by healthful rearing of children, has been called by Dr. Francis Galton, whose life has been devoted to a campaign in favor of it, the science of eugenics. Whereas natural selection depends upon over-production and wholesale destruction, the aim of eugenics is to see that no more children are born than can be properly cared for and to make sure that those born come of the best stock. This science assumes that it is possible

to improve the race by the application of the newer knowledge which modern studies of heredity and environment have yielded."

Doubtless there is not a well-informed man or woman in this nation, with any pretense to culture, who does not know something of the wonderful work accomplished by the wizard, Luther Burbank, in his laboratory garden at Santa Rosa. And as we see him patiently waiting for the immutable natural laws of heredity, which we are just beginning to discover, to work out those marvelous changes in his fruits and flowers, we search the pages of history of this or any other time for a spectacle more inspiring. As we read the story of the Shasta Daisy, of the Spineless Cactus, of the Burbank Potato and the California Poppy our hearts are stirred with admiration for the genius of the man, and the intrinsic value of his work.

But is it not passing strange that it has never occurred to anybody—at least not until very, very recently—that the science which deals with all those influences that improve the *inborn qualities* of the race of *human beings*, is after all the most important subject that could possibly engage our attention? That the annual crop of boys and girls is the most valuable crop commercially and otherwise—which the nation produces? And that by care in "selection of stock" and proper environment and culture during the period of growth and development, the value of the product may be vastly increased? That preventive medicine of which we so proudly boast as the greatest advance of modern times finds here its only scientific basis—its only rational foundation?

And does it not seem probable that the various social problems which now engage the best thought of that splendid body of men who stand in the front rank of our splendid profession; The White Plague, The Venereal Peril, Infant Mortality, The Abortion Evil, The Decreasing Birth Rate, The Divorce Mill, Child Labor, The Prevention of Blindness, The White Slave Traffic, and many other questions of vital import, will be more readily solved if dealt with from the standpoint of the Science of Eugenics.

Let us assume that our people as a whole were as well versed in the fundamental principles of Eugenics as they are now in Mathematics, in Latin, or in Astronomy. Can you imagine that we should be without a National Health Department, completely organized and ably administered, even though an appropriation as large as that annually provided for the Department of Agriculture were needed—or ten times so much?

If people generally knew the facts as medical men know them, would there be in the whole country a single city of any size with-

out a competent and efficient Board of Health, strong enough and wise enough to protect, *in so far as we know it to be possible*, the health and the lives of citizens? If they knew as well as we know what is the annual cost in time and money, in health and human happiness and in life itself, of gonorrhoea alone, can we suppose that there would be no effort on the part of the local Boards of Health to inspect and quarantine the numerous houses of prostitution, especially in those cities where an enlightened (?) public not only tolerates but demands a placard for chicken pox and measles.

If they really knew the facts, as gynecologists know them, concerning the activities of the criminal abortionist, and the end results of his damning and damnable work, would he be able to continue to defy, as he does now in your community and mine, all the laws of decency and common sense, and still maintain a show of respectability?

And if they do not know, or rather, since they do not know, whose business is it to instruct?

It is not the business of parents to instruct their children because parents themselves are ignorant. So far it has been possible to learn of these things only in the hard school of experience and we know that many of those who have had the experience will never have children; many others will have children already diseased or defective, and the rest will not know how, or put it off till it is everlastingly too late.

It is not the business of teachers—apparently, for such subjects are not embraced in the curriculum. We go to great trouble and expense to teach the child many things, but on the vital questions referred to, our great educational system—from beginning to end—is silent.

It is clearly not the business of statesmen—sometimes unfortunately referred to as politicians. No skillful master of this great game will ever dare to encourage the study of the science of Eugenics. It would interfere with too much business—particularly the kind of business carried on at the house of prostitution, at saloons and in many other places for the dear people to get to thinking along Eugenic lines. Business interests must not be disturbed, especially those interests which have great power and influence and control many votes—at least not until after election, and “after election” to the real statesman is always just before the *next* election. Of course it might be vastly beneficial and that sort of thing—but in the plans of the practical politician, the Utopian dreams of enthusiastic reformers have no place.

It is not the business of preachers. They are, alas, too often concerned only with the

soul's *eternal salvation*,” forgetting that “man's chief end is to glorify God and to enjoy Him forever,” which, according to my interpretation, includes the time spent on this earth as well as the hereafter. Whatever may be the system of theology adhered to, they are all very much alike in that, upon these vital questions, which must of necessity form the very foundation of any religion which can permanently uplift and ennoble the human race, they are silent. Furthermore, it is unfortunately true that, in common with parents and teachers, they are almost hopelessly ignorant. Although constantly brought into most intimate and confidential relations with their people, and clothed with authority and influence which command for their every utterance not only attention but respect, they have signally failed to instruct their flocks concerning these vital truths which have a moral and spiritual as well as a physical and temporal significance.

The strange paradox which requires of the ministers of at least one great branch of the church that they refuse absolutely to marry persons who have been divorced, and yet permits them unhesitatingly and cheerfully to proceed to unite in holy wedlock the pure, innocent, unsuspecting young girl, with the gay young man about town, whose blood at that moment is reeking with deadly virus of gonorrhoea or syphilis, is worthy of thoughtful consideration.

The ignorant father of such a girl asks no questions—the shortsighted and improvident state which grants the license asks no questions—the man of God, as he stands in the presence of high heaven before the contracting parties and their assembled friends, does ask a most vital and significant question, which, in its form and upon its face, is apparently an earnest appeal for important information, but as he waits for one brief ominous moment after repeating the solemn charge “speak now or forever after hold your peace,” he does not *expect* an answer.

It is not the time or place, nor is this a proper way to get at the facts. It would be imprudent if not actually unsafe for you or me to sneak, and so this part of our marriage service is a grim and tragic farce.

Not one among all those to whom such a young girl has a natural, as well as legal and moral right to look for protection has been true to the trust she reposes in them. Father and mother and the good old family doctor, along with teachers, pastors and friends, all joined in a *conspiracy of silence—stupid, ignorant, willful, criminal silence*. And when, a few years later, we find her with a diseased, disfigured and pain-racked body, when she has seen her children sicken and die in her arms, or perhaps has tasted the bitterness of

that loneliness which only the childless woman can know—when she has tested to the limit the knowledge and the skill of the best gynecologist which her family doctor could find, and is after all but a pitiful wreck of her former self, a poor, unhappy, unnatural woman—what then?

The father and mother are grieved that misfortune has overtaken their favorite child. The old family doctor complacently inscribes her name upon the list of his regular patients—"a neurasthenic—always half sick, good pay, but rather tedious, uninteresting practice." The genial pastor views with great regret the growing lack of interest manifested by his parishioner in the work of the church, but fully understands that the change is due to "ill-health," and blandly admonishes that the cross be borne with meekness and patience. The warm and intimate friends of other days seek more agreeable companions, and comment more or less kindly upon the "remarkable change" that has taken place in the disposition and temperament, as well as in the appearance, of the girl they knew so well just a little while ago—"Assuredly married life has not agreed with her,"—and skepticism as to the success of this ancient and honorable institution grows apace.

Now the point which it is desired to emphasize is this: Of all those concerned directly or indirectly with the little tragedy here briefly outlined, which we must admit is so common as to be almost a matter of daily routine with every successful gynecologist, not one was in a position to grasp the full meaning of the situation from beginning to end as was the gynecologist.

By reason of his special training and of his larger experience he must, sooner or later, become impressed with the unpleasant truth that most of his work is made possible and necessary only by reason of the ignorant or foolish blunders of his patients.

It is commonly known and frequently stated that a very large percentage—perhaps 80 to 90 per cent—of those pathological conditions peculiar to women requiring operative interference are traceable directly to venereal disease or to abortion. Has the gynecologist, therefore, no special duty resting upon him with reference to prophylaxis in the treatment of these diseases?

It is not my purpose to discuss at this time the means or the methods by which this duty may be discharged. With an abiding faith in the wisdom, the ability, the tact and the resourcefulness of those who stand for the best in modern gynecology, we may confidently expect that their share of this great work will be done and done well. That the hearty co-operation of the whole medical profession will be sought and secured, that the science

of Eugenics will be given its proper place in our educational system, that better laws will shortly reflect the will of an enlightened people, that a National Health Department working with and through potent state and local Boards of Health, may enforce these laws—that the secret of race ennoblement revealed by modern science, will become of practical benefit and that ultimately we, as Kentuckians, may boast not only of our horses, but of a healthier, happier and more efficient race of men.

In acknowledgment of the various sources upon which I have drawn for the views expressed and for the convenience of those desiring to pursue the subject further, the following references are given:

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T. C. HOLLOWAY.

DEPARTMENT OF UROLOGY.

Zeitschrift für Gynaekologische Urologie, Vol. II., No. 3, (July, 1910.)

Lavage of the Renal Pelves:—Johannes Hartmann, Jena.

Hartmann considers the value of irrigating the pelves of the kidney in pyelitis occurring in connection with pregnancy and labor, and the puerperal period. Lavage of the pelvis has been used by many authors since it was first recommended by Casper. The technique of the method is too well known to need description, but an important point is the determination of the capacity of the renal pelvis. By this we mean, is that amount of fluid which can be injected into the pelvis without causing any sensation of tension or pain. If the quantity of fluid used at one injection is not sufficient, the entire pelvis will not be distended and flushed out, while if the quantity be too large the patient will not only feel pain, but we may do direct damage to the pelvis and we may even drive the infection into the tubules of the kidney. Some authors even go so far as to condemn the method of pelvo-renal lavage, because after such treatment, there are at times chills and temporary aggravation of the clinical symptoms. In acute cases of pyelitis, there

is a serious question as to whether irrigation is indicated; in such cases it is probable that simple ureter catheterism, and allowing the catheter to remain in place for some time will serve all purposes and effectively draining the kidney and pelvis. After all acute symptoms have subsided, then lavage may be begun for the purpose of removing the masses of bacteria.

The results of this method of treatment have been excellent in the author's experience. The action of the lavage, in the author's opinion, is strictly mechanical. The injection of the fluid causes peristaltic contractions of the pelvis, thus effecting a thorough emptying of the cavity. It does not matter so much what particular fluid is used in the lavage, as we may use sterile water, salt solution or solution of boric acid. Solutions of Silver Nitrate in various proportions are very popular. The author does not favor its use, inasmuch as the silver nitrate is converted into the inactive chloride of silver while flowing through the catheter itself, which contains chlorides derived from the urine. Thus practically no silver nitrate reaches the renal pelvis. After many trials the author has come to regard hydrogen peroxide as the best solution for these treatments; he uses the brand known as perhydrol, employing it in 1 or 2 per cent solution, or even in one-fourth or one-half per cent solutions.

The irrigations should not be given too often, twice a week being sufficient, but the irrigations should be continued until the urine from the pelvis no longer contains any bacteria. This usually takes about four weeks.

The indications for pelvic lavage is next considered. It is evident that cases with large pelvic distension and much pus cannot well be expected to improve under this treatment. Where there is a palpable pyonephrosis, success may be expected only when the cavity is small and the condition is recent. Perhaps the limit of efficiency of irrigations may be said to lie in cases in which the capacity of the pelvis does not exceed 50 c. c. When large stones are present in the kidney, irrigations are naturally ineffective. The treatment is also useless in the presence of tuberculosis of the kidney. In all other cases of pyelitis, lavage of the pelvis is indicated, especially in the chronic forms and in those accompanied by bacteruria. The cases with colon bacillus infection of the pelvis are especially amenable to this treatment.

Berlin Klin., Wochensch., Oct. 18, 1909.

Painful Cystitis.—Dr. C. Posner, Berlin.

Posner claims that ulceration, tuberculosis or tumor is at the bottom of every case of painful cystitis. In the tuberculous forms general measures, especially general tubercu-

lin treatment, should be instituted. All local treatment of a tuberculous bladder is extremely painful. A cystitis which becomes aggravated under silver nitrate is strongly suggestive of tuberculosis. Corrosive sublimate, or as a last resort, carbolic acid in 6 per cent solution may be of use. Simple incision into the bladder (for drainage) has been of service.

In non-tuberculous ulcerations silver nitrate applications through a cystoscope to the ulcer itself may cause complete cure. Radical removal of the ulceration should receive consideration, and in cases of inoperable tumor relief may be obtained by injections of an ounce of warm olive oil into the bladder.

Physical and diatetic measures are of great importance, especially local applications of heat, hot sitz baths and avoidance of condiments. Milk is the best diet.

Renal Tuberculosis.—Dr. E. Saint Jacques, in an article appearing in "le Journal de Medicine et de Chirurgie (Vol. IV., No. 20)" reviews the literature and a few cases illustrating points in the diagnosis and treatment of renal tuberculosis. Of course the main feature in diagnosis is to determine which is the affected kidney, and the functional ability of the remaining one by a comparative study of the urines from each side. As aids in the diagnosis the cystoscope and the endovesical separation of the urine after Luys, should be the routine method. The latter, while normally of *absolute* value, only becomes of *relative* significance when the bladder itself presents ulcerous lesions. Bacilluria (tuberculous) may be present without albuminuria, but in all cases, siduary bacterial tests are insufficient and should be supplemented by animal inoculation. The treatment of this disease is primarily surgical, i. e., nephrectomy, but when contraindications, such as depressed general condition, are present, should not give up hope of a cure, for this may at times be spontaneous and is assisted by hygienic and therapeutic measures.

One Hundred Nephrectomies.—Widloz reports his results in one hundred cases of nephrectomy (Corresp. f. Schweizer Erzie. Oct. 15, 1909.) Ninety operations were for tuberculous kidney. His mortality was 4 per cent, as follows: One from advanced myocarditis, one from uraemia, one from pulmonary embolism, and one from paralytic ileus. He uses ether for his anaesthetic, and intravesical segregation of the urine as his chief diagnostic aid. In one case this method failed to give decisive information as to whether the renal tuberculosis was unilateral or bilateral. After eight years, however, *ureteral catheterization* showed that but one

kidney had been affected, and therefore the nephrectomy was followed by a cure. As a rule the tuberculous process caused us no trouble until the bladder was involved, and in one case the kidney was totally destroyed without giving any symptoms whatever, but occasionally the kidney process simulate colic from renal calculi.

Prognosis and Treatment of Renal Tuberculosis. (Boston Medical and Surgical Journal, Nov., 1909.) Dr. R. F. O'Neil, Boston, summarizes the results of Rafin, Israel, Nieolich, Zuekerkandl, Wildbolz, Casper and Kapsammer. He finds that the prognosis depends considerably upon the promptness with which the diagnosis is made, as the process rarely begins simultaneously in both kidneys, except in general miliary tuberculosis, and the accuracy with which the indications for operation are worked out. This applies particularly to the condition of the opposite kidney. The prognosis in early unilateral renal tuberculosis is very good, and is also good in advanced cases when confined to one side. The writer feels that the value of tuberculin and climatic and hygienic measures as against well-chosen nephrectomy is "not proven." He mentions one bilateral case in which, although the bladder symptoms were marked, tuberculin was of great benefit.

To sum up, unilateral renal tuberculosis should be treated by removal of the kidney and ureter if involved, providing, of course, other foci in the body do not contra-indicate operation. Any stubborn secondary bladder involvement is to be treated with tuberculin or after Rovsing's method, and supplemented by climatic and hygienic measures. With regard to removal of the ureter, many writers think this is unnecessary, as it will heal as the bladder does. However, the writer has seen a case where the bladder without doubt was kept infected by the remaining diseased ureter.

Rovsing's method of treatment consists in the instillation of 50 c. c. of 6 per cent aqueous solution of carbolic acid at 95 degrees Fah., after the bladder has been cleaned of all pus. The pain is intense, morphine being required. Instillations are at first daily, but the intervals are gradually lengthened to three or four days, as the urine gets clearer. The treatment lasts from one to six months.

Bilateral Nephrolithotomy, in Which the Kidney Was Kept Outside the Wound for Seven Days Before Returning it to the Loins:

Clay (British Medical Journal, May 1, 1909,) reports a case in which both kidneys contained a large number of stones, the urine contained thick pus, the patient was weak and in an exhausted condition. After removing

the stones from the right kidney it was not, as is usual, returned to the abdominal cavity, but was kept outside the wound for seven days. Clay holds that by doing this the possibility of losing the patient from hemorrhage is reduced to a minimum, as bleeding points are easily seen and dealt with. He also notes that the place for an organ dripping with decomposed urine and pus is outside the abdominal cavity, and not in its loose, soft bed in the loin.

Both kidneys were operated on. These operations were not in sequence, but consecutive. The bed from which the kidney was removed was packed with gauze; the kidney itself was similarly wrapped and kept outside the wound. Seven days after the operation an anaesthetic was given, the gauze removed from the loin, and the kidney returned to its bed.

Genital Canal Block Following Gonococcus Infection: C. E. Barnett, of Fort Wayne, Ind., (Annals of Surgery, March, 1910) emphasized the role of a block somewhere in the genital canal in the origin of sterility. Primarily this condition is due to deep urethral infection. He found the ejaculatory ducts blocked in a majority of the pathologic subjects in whom he made bladder dissections. Barnett believes that when the block occurs in the ejaculatory ducts, the vesicles and the vasa become retention cysts, and the vesicles frequently become so adherent to the prostate that, when the latter is removed, the vesicles are also carried with it. Barnett does not offer any surgical cure for the obstruction of the genital canal, but believes that the remedy lies in prevention against gonococcal infection.

CARL LEWIS WHEELER.

Cherry-Stone Ileus.—Eichhorst recently operated on a woman of 47 with the presumptive diagnosis of cancerous obstruction of the ascending colon. When the bowel was opened, the lower part of the ileum and the entire ascending colon were found packed with cherry-stones, 909 being removed. The intestinal mucosa was red but otherwise apparently unmodified. The patient succumbed the next day. She denied having been in the habit of swallowing cherry-stones and her husband was not aware that she had eaten many. This is Eichhorst's second case of the kind. The patient in the other case was a man of 49 and the cherry-stones were accumulated in the rectum; the outlet of the bladder had been compressed by the foreign bodies. There are only a few cases on record of ileus from obstruction by cherry-stones without preceding stenosis, but Madelung has reported a case in which concretions developed around the stones.

ORIGINAL ARTICLES

KENTUCKY'S OPPORTUNITY FOR VITAL STATISTICS—HOW THE MEDICAL PROFESSION CAN AID.*

BY CRESSY L. WILBUR,

DIRECTOR VITAL STATISTICS, U. S. CENSUS BUREAU, WASHINGTON, D. C.

Here is a map of the United States that shows, in two distinctive shades, (1) the States accepted as having approximately complete registration of deaths during the year 1909, and (2) the States whose laws now under trial, or soon to be tested in practical operation, are so framed that effective administration of them should enable the results obtained to be included in the annual reports on mortality statistics published by the Government. Certain cities in non-registration States with efficient registration of deaths under local ordinances are also indicated; these cities added to the registration States make up the "registration area" of the United States, which, for the year 1909, included an estimated population of 48,776,893, or 55.3 per cent. of the aggregate estimated population of the mainland of the United States.

We have thus the present and immediately prospective *registration area for deaths*.

It seems small and inadequately representative of the vast expanse of this country when we look at the map of the United States, and remember that all civilized countries throughout the world, except our own, would no more undertake to conduct their governmental business without a regular and complete registration of the vital events of the lives of their people—the births, the marriages, and the deaths—than they would without a regular enumeration or census of population.

We are not civilized in this respect and are living in a condition of semi-barbarity that is a matter of constant surprise to intelligent foreigners who learn of the entire absence, for a large portion of the United States, of essential information that is readily obtainable for all other civilized nations. Our negligence in this respect is akin to, and in part responsible for, our indifference to the waste of human life that is constantly going on in this country; of the lives of infants, by disregard for pure milk, properly preserved against contamination and infection, and by permitting conditions that tend

to the needless displacement of breast feeding; by huddling into crowded and filthy tenements and "alley houses" in our cities, when the land is broad enough and rich enough to give every native born child a fair chance for life at the start; of the lives of young and middle aged men and women by the prevalence of preventable (and, therefore, *to be prevented*) filth diseases, due to impure air, food and water, such as typhoid fever, pneumonia, and tuberculosis, and by the vast roll of unnecessary slaughter by industrial accidents and diseases; and of the lives of the elderly and prematurely aged ("old age" ought not to begin before 80 or 90 years, although we frequently hear it reported in the mortality statistics at 60 or even earlier), by the "degenerative diseases," such as arteriosclerosis, organic heart disease, chronic Bright's disease, apoplexy and paralysis, diabetes, etc. No concerted effort has been made by sanitary authorities against this latter most important class of diseases, whose prophylaxis should be begun in the school room and continued throughout all the years of young and middle life. "Every indiscretion of youth is a conspiracy against old age," but the conspirators plot unheeded and often undetected, without a warning word from those who should be able to point out the proper paths of life. Less whisky, tobacco, and less nervous-straining from excessive and unnecessary competitive standards in business and society, and the introduction of a national system of hygienic athletics as a part of our national school system from the kindergarten up should be the beginning of a campaign against excessive mortality in advanced life and the first step towards the restoration of a safer and saner mode of living.

VITAL STATISTICS AND PUBLIC AND PRIVATE HEALTH.

What has this to do with the new registration law for vital statistics of Kentucky?

It has everything to do with it.

No intelligent effort can be made along any line of advancement of public or private health that does not call, at once and most imperatively, for *facts* in regard to the prevalence of disease. We must know what diseases are most prevalent and most fatal, and we can only judge, with any degree of certainty, as to whether we are using the best methods for their prevention and restriction by a careful analysis of the results obtained by the thorough registration of vital statistics. I say the *thorough registration*, because the data obtained by obsolete and discredited methods are worse than useless; they may lead to a sense of false security and are fre-

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

quently used, probably unintentionally, to give most erroneous impressions. It was for this reason that the antiquated and worthless system of attempting to enumerate deaths at the time of the enumeration of the population, as has been done by each Federal Census from 1850 to 1900, was discarded by the Thirteenth Census taken during the present year, and sole dependence was placed upon the transcripts of registration records obtained from such States and cities as could be relied upon to provide accurate returns. It is unfortunate that Kentucky, and the entire South as well, except for a few isolated cities, will be totally unrepresented; but *no* representation is better than a false one, and it is so easy to construct elaborate ratios and draw inferences from fundamentally unsound figures that it is a real advance to show sharply the *absence* of this most important information. We have passed the age of makeshifts and the United States is ready to begin the building up of a national system of vital statistics upon a sound basis.

The successful administration of the new registration law of Kentucky will mean, not only the institution and protection of adequate legal records of births and deaths for the protection and convenience of the people of the State, and for sanitary purposes, but it will mean the beginning of complete State registration of vital statistics, according to modern methods, for the first time in any State of the entire South (I make no exception of Maryland, whose registration of births is utterly worthless), and will thus mark the possibility of introducing like methods in other Southern States and thus bringing together both sections of the country in friendly co-operation and support of the national system of vital statistics that this country must surely have for its own important purposes and in order to maintain the respect of the world.

THE KENTUCKY LAW.

You are all, I presume, more or less familiar with the provisions of the new law, which was passed at the last session of the Kentucky Legislature and which was printed in full in the KENTUCKY MEDICAL JOURNAL, the official organ of the Kentucky State Medical Association, in its issue of May 1, 1910.

It is an excellent law. It complies with all the essential requirements of successful registration of vital statistics as laid down by the practical registration officials of the United States and indorsed by the American Medical Association, the American Public Health Association, and the Bureau of the Census. I have here copies of the Bulletin of the American Medical Association for January 15, 1909, containing the draft of a model law,

with arguments for its passage, with which the Kentucky law can be compared. The measures are practically identical, and so also are the laws in force, and which were drafted upon the same principles, in the States of Pennsylvania, Ohio, and Missouri. These laws are a success in practical operation wherever they have been thoroughly tested and their provisions carried out by the executive authorities charged with their enforcement. And there is no reason to doubt but that equally as good results can and will be obtained in Kentucky.

The principles of the law are simple, although it is necessary to amplify them considerably in the act itself in order to provide complete regulations for administrative procedure. They may be summarized briefly as follows:

(1) A strong central authority in the person of a State Registrar of Vital Statistics, appointed by the State Board of Health for a term of four years, and who "is hereby charged with the thorough and efficient execution of the provisions of this act in every part of the State, and with supervisory power over local registrars, to the end that all of the requirements shall be uniformly complied with." He is given ample power and authority, including such legal assistance as may be necessary, to *secure results*, and if left unhampered in his proper field of responsibility should be able to make the Bureau of Vital Statistics invaluable to the State Board of Health, and to the people of the State. In many States the work in vital statistics has been illy-supported and efforts to enforce the law nullified. This cannot happen in Kentucky if the plain purpose of the present law is carried out.

(2) The next important provision is that for a sufficient number of local registrars. These are the city and town registrars now in service, together with special local registrars of primary registration districts into which each county is to be divided by the State Board of Health. It is important that a sufficient number of such districts shall be formed so that undertakers, physicians, and midwives will be able to personally file certificates of births and of deaths without inconvenience, and so that each local registrar can exercise close supervision over his district and be able to report each month that all births and deaths that occurred have been recorded. All local registrars return the original certificates of births and deaths filed with them for each month to the State registrar on the tenth day of the following month, and receive the compensation of 25 cents for each certificate properly filled out and promptly returned as required by law from

the county treasurer upon warrant from the State Registrar. No compensation should be paid for grossly imperfect or tardy returns, and the local registrars are also liable to fine or removal for neglect of duty. Active local registrars are absolutely necessary for effective registration and it is fortunate that so many men can be found who will perform

tificates, which are to form the permanent records of the State, and should not be too easily moved to indignation if, under the explicit provisions of the law and the instructions of the State Registrar, imperfect certificates are returned for additional information or perhaps for the more definite statement of cause of death.

REVISED UNITED STATES STANDARD CERTIFICATE OF DEATH.

COMMONWEALTH OF KENTUCKY

STATE BOARD OF HEALTH

BUREAU OF VITAL STATISTICS

CERTIFICATE OF DEATH

1 PLACE OF DEATH
County.....
Vot. Pct.....
Inc. Town.....

City..... (No.....St.,Ward) [If death occurred in
a hospital or institution,
give its NAME instead
of street and number.]

2 FULL NAME.....

File No.....

Registered No.....

PERSONAL AND STATISTICAL PARTICULARS

3 SEX	4 COLOR OR RACE	5 SINGLE MARRIED WIDOWED OR DIVORCED (Write the word)
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6 DATE OF BIRTH..... 19....
(Month) (Day) (Year)

7 AGE.....
.....Yrs.,Mos.,Ds., or.....min?
If LESS than 1 day,hrs.,

8 OCCUPATION
(a) Trade, profession, or particular kind of work.....
(b) General nature of industry business, or establishment in which employed (or employer).....

9 BIRTHPLACE
(State or Country)

10 NAME OF FATHER.....
11 BIRTHPLACE OF FATHER (State or Country).....
12 MAIDEN NAME OF MOTHER.....
13 BIRTHPLACE OF MOTHER (State or Country).....

14 THE ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE.. (Informant).....
(Address).....

15 Filed....., 19....
Registrar.

MEDICAL CERTIFICATE OF DEATH

16 DATE OF DEATH....., 19....
(Month) (Day) (Year)

17 I HEREBY CERTIFY, That I attended deceased from....., 19...., to....., 19....
that I last saw h.... alive on....., 19....
and that death occurred on the date stated at.....m.
The CAUSE OF DEATH* was as follows:

.....
.....
..... (Duration).....Yrs.,Mos.,Ds.
Contributory (Secondary).....
..... (Duration).....Yrs.,Mos.,Ds.
(Signed)....., M. D.
....., 19.... (Address).....

* State the Disease Causing Death, or, in deaths from Violent Causes, state (1) Means of Injury; and (2) whether Accidental, Suicidal or Homicidal.

18 LENGTH OF RESIDENCE (For Hospitals, Institutions, Transients or Recent Residents)
At Place In the
of Death...Yrs.,...Mos.,...Ds. State...Yrs.,...Mos.,...Ds.
Where was disease contracted,
if not at place of death?.....
Former or
usual residence.....

19 PLACE OF BURIAL OR REMOVAL DATE OF BURIAL.....19....

20 UNDERTAKER ADDRESS

this most important duty, with its trifling compensation, more from their pride and interest in the law than for the mere personal benefit. Physicians should appreciate the necessity of scrupulous carefulness upon the part of the local registrars in accepting cer-

(3) Both the certificates of birth and the certificates of death are of the standard form adopted by the United States Census Bureau and used in the great majority of registration States—in all of them, in fact, that have adopted new forms of blanks within the past

ten years and since the standard form was prepared. It is unnecessary to discuss the items on these blanks except to say that all of them are essential for important purposes and should be fully and carefully filled out. The cause of death is frequently difficult to determine, and when known, it may be expressed in indefinite or ambiguous language that may render satisfactory compilation difficult. We have at present no accepted nomenclature of diseases in general use in the United States, but a special committee of the American Medical Association has attacked the problem and we shall probably have an authoritative guide in the immediate future. In the meantime, the recommendations made upon the back of the Standard Certificate of Death (copies of which I have here for your examination) may be followed, and also the recommendations as to the statement of occupations.

STATEMENT OF OCCUPATION.—Precise statement of occupation is very important, so that the relative healthfulness of various pursuits can be known. The question applies to each and every person, irrespective of age. For many occupations a single word or term on the first line will be sufficient, e. g., *Farmer* or *Planter*, *Physician*, *Compositor*, *Architect*, *Locomotive engineer*, *Civil engineer*, *Stationary fireman*, etc. But in many cases, especially in industrial employments, it is necessary to know (a) the kind of work and also (b) the nature of the business or industry, and therefore an additional line is provided for the latter statement; it should be used only when needed. As examples: (a) *Spinner*, (b) *Cotton mill*; (a) *Salesman*, (b) *Grocery*; (a) *Foreman*, (b) *Automobile factory*. The material worked on may form part of the second statement. Never return "Laborer," "Foreman," "Manager," "Dealer," etc., without more precise specification, as *Day laborer*, *Farm laborer*, *laborer—Coal mine*, etc. Women at home, who are engaged in the duties of the household only (not paid *Housekeepers* who receive a definite salary), may be entered as *Housewife*, *Housework*, or *At Home*, and children, not gainfully employed, at *At school* or *At home*. Care should be taken to report specifically the occupations of persons engaged in domestic service for wages, as *Servant*, *Cook*, *Housemaid*, etc. If the occupation has been changed or given up on account of the *disease causing death*, state occupation at beginning of illness. If retired from business, that fact may be indicated thus: *Farmer (retired, 6 yrs)*. For persons who have no occupation whatever, write *None*.

STATEMENT OF CAUSE OF DEATH.—Name, first, the *disease causing death* (the primary

affection with respect to time and causation), using always the same accepted term for the same disease. Examples: *Cerebrospinal fever* (the only definite synonym is "Epidemic cerebrospinal meningitis"); *Diphtheria* (avoid use of "Croup"); *Typhoid fever* (never report "Typhoid pneumonia"); *Lobar pneumonia*; *bronchopneumonia* ("Pneumonia," unqualified, is indefinite); *Tuberculosis of lungs*, *meninges*, *peritoneum*, etc., *Carcinoma*, *Sarcoma*, etc., of (name origin; "Cancer" is less definite; avoid use of "Tumor" for malignant neoplasms); *Measles*; *Whooping cough*; *Chronic valvular heart disease*; *Chronic interstitial nephritis*, etc. The contributory (secondary or intercurrent) affection need not be stated unless important. Example: *Measles* (disease causing death), 29 ds.; *Bronchopneumonia* (secondary), 10 ds. Never report mere symptoms or terminal conditions, such as "Asthenia," "Anaemia" (merely symptomatic), "Atrophy," "Collapse," "Coma," "Convulsions," "Debility" ("Congenital," "Senile," etc.), "Dropsy," "Exhaustion," "Heart Failure," "Haemorrhage," "Inanition," "Marasmus," "Old age," "Shock," "Uremia" "Weakness," etc., when a definite disease can be ascertained as the cause. Always qualify all diseases resulting from childbirth or miscarriage, as *PUERPERAL septicaemia*, "PUERPERAL peritonitis," etc. State cause for which surgical operation was undertaken. For VIOLENT DEATHS state MEANS OF INJURY and qualify as ACCIDENTAL, SUICIDAL, or HOMICIDAL, or as *probably* such, if impossible to determine definitely. Examples: *Accidental drowning*; *Struck by railway train—accident*; *Revolver wound of head—homicide*; *Poisoned by carbolic acid—probably suicide*. The nature of the injury, as fracture of the skull, and consequences (e. g. *sepsis*, *tetanus*) may be stated under the head of "Contributory." (Recommendations on statement of cause of death approved by Committee on Nomenclature of the American Medical Association.)

(4) Sole responsibility for filing the certificate of death and obtaining a permit for burial or removal is placed upon the undertaker or person acting as such. The physician has only to fill out the medical certificate of cause of death when presented to him, but it will greatly facilitate the operation of the law if physicians will take a personal interest in keeping a supply of blanks on hand and

NOTE.—Certificates will be returned for additional information which give any of the following diseases, without explanation, as the sole cause of death: Abortion, cellulitis, childbirth, convulsions, hemorrhage, gangrene, gastritis, erysipelas, meningitis, miscarriage, necrosis, peritonitis, phlebitis, septicaemia, tetanus.

leave the certificates, with the statement of cause of death duly inserted, with the family, with the undertaker, or even leave at their own office. It will be an entirely new requirement for undertakers in rural districts to be obliged to file a certificate and obtain a permit before interment, and some complaints will naturally occur which may be obviated greatly by a little thoughtfulness and consideration on the part of the physicians. It is necessary, however, for the thorough registration of all deaths that there should be no divided responsibility, and after a little experience the undertakers will cordially support such a law and aid very effectively in securing accurate data upon the certificates filed by them.

(5) For births the sole responsibility of registration is placed upon the physician or midwife in attendance, if any. I shall refer later to the responsibility of the profession under this requirement.

(6) Both the registration of births, within ten days, and the registration of deaths, before interment or removal of the body, may be considered as a type of immediate registration, that is registration while the events are of very recent occurrence. It has always been found that if registration is delayed, a certain proportion of births and deaths will fail to be registered.

(7) The burial or removal permit is compulsory throughout the state. This is an absolutely essential requisite for complete registration of deaths.

(8) Proper penalties are provided for neglect or violation of the law by undertakers, sextons, physicians, midwives, agents of transportation companies, or other persons charged with duties thereunder, and the local registrars, State Registrars, and prosecuting attorneys are charged with its enforcement.

Although Kentucky has, in this law, as thorough and complete system for the collection of vital statistics as that in force in any state in the Union, and in some respects, as the latest law for this purpose, it is as it should be, the best law. And when we realize that the passage and enforcement of such a law is the most important sanitary measure that a state can adopt, as well as the greatest legal value and benefit to the people of the state, we can look forward with intense interest and lively expectations for the results to be obtained thereunder.

RESPONSIBILITY OF THE MEDICAL PROFESSION.

The success of this law will depend largely upon the medical profession, and especially the organized medical profession of

the state. I have always pointed out how physicians may facilitate the operation of the law for the registration of deaths by aiding the undertakers in the prompt filing of certificates and by furnishing the information required of them under the law in definite terms, as well as by bearing with the reasonable requests of local registrars and of State registrars for more specific data when required. I anticipate little difficulty in the thorough enforcement of the provisions for the registration of deaths, the responsibility for which is laid entirely upon the undertakers. But will the physicians of the state, at the cost of occasional personal inconvenience and trouble, comply with the requirements or birth registration, the responsibility of which rests solely upon them for cases upon which they attend?

This is the element of uncertainty as to the probable success of the law. And as a law must be enforced more or less as an organic whole, the failure of physicians to comply with the requirements in regard to the registration of births may lead to disaster in regard to the enforcement of its provisions for the registration of deaths. A physician, or a county medical society, can not well complain that undertakers disregard certain provisions of the law when physicians disregard other provisions of the same law. While, therefore, it will always be to the credit of Kentucky that the first complete modern registration law in the entire South was passed in 1910, the more important question is whether this law shall be enforced; and it can not be enforced without the hearty co-operation of the medical profession of the state.

In one respect the Kentucky law differs from the law recommended by the American Medical Association and in force, for example, in the states of Pennsylvania, Ohio, and Missouri, in that it provides a special compensation (25 cents) to the physician not only for each birth certificate properly filed by him, but also for each medical certificate of cause of death. I shall not argue against such provisions, although from the point of view of securing complete registration, they are entirely unnecessary and may become even a detriment. The point is that by the inclusion of such provision a certain class of complaints against the ordinary exercise of the police power of the state will be stopped. The danger is that when a physician finds the reporting of a birth will put him to inconvenience or trouble in excess of the deferred compensation of 25 cents, he may conclude *not* to report it and argue that he has committed no

wrong as he will get no pay for the report that he failed to make.

This is an entirely erroneous basis. The registration of births is not, primarily, for the benefit of the medical profession; it is for the benefit of the citizens of the state. Physicians under the police power of the state, can be compelled to report certain information required by the commonwealth, and it is not optional with them to give or withhold such information required by law conditioned upon the acceptance or non-acceptance of a special fee. The penalty of the law should be enforced in all cases without regard to the question of compensation, although, of course, as the item of compensation is included in the Kentucky law, payment should not be extended to imperfect or tardy returns not made in compliance therewith.

The value of the entire body of statistics collected by the state will depend upon their completeness. Ninety physicians out of a hundred may comply with the law, and yet the total results for the entire state may be vitiated by the ten physicians out of a hundred who refuse or neglect to do so. If one leading physician in a community refuses to take the trouble to register his births he will soon have imitators, who, very reasonably, will fail to see why there should be any discrimination of persons under the general statute. The rotten speck will soon extend and in a short time the whole registration law will become a farce.

The remedy for such a condition is the prompt enforcement of the law, in all cases of known violation, and utterly irrespective of the social or professional prominence of the violators. Remember, such a violation of the Act is overriding the *law of the commonwealth* for his personal convenience, impeaching the reputation of the profession for faithful observance of the legislation that it has itself urged, and perhaps working an irreparable wrong upon the future of a helpless infant from whose family he has taken money for discharging his proper professional service, which includes the registration of the birth. If any leniency is to be shown in such cases, it should be exhibited towards midwives, whose ignorance may account for neglect, and not towards enlightened physicians, whose knowledge of the scientific and sanitary uses of complete birth registration should render them less excusable for failure to comply with the provisions of a reasonable registration law.

Nevertheless the almost total lack of complete birth registration in the United States is due to the failure and neglect of physicians to observe such laws, and of other physicians, in the executive capacity of

health officers, to enforce them. It is frequently true that midwives are much more particular about registering births than physicians.

The remedy for this condition lies in your own hands, and, starting out with a new organic law, it should be easy, through your state and county organizations, to hold up the hands of the local registrars and of the State Registrar in securing such a thorough compliance with the law for the registration of births that the reproach now resting upon the profession in this respect will be removed. It should not be said that physicians prescribe registration laws for others and refuse to obey them themselves. It should be considered professional misconduct to violate such statutes, and the county societies should take pride in scrupulous observance, by their members, of their necessary requirements.

DISCUSSION.

W. L. Heizer, Bowling Green: It is with a great deal of pleasure that I listened to the paper of Dr. Wilbur, who is possibly the greatest vital statistician in the United States, and I am sure I am expressing the sentiments of the members present, as well as the doctors who are absent, who will read Dr. Wilbur's paper later in the *Journal*, when I say we are deeply grateful to him for having presented this subject at this time, when we are about to enter into the execution of our new vital statistics law.

It is unfortunate that at the present time we have no term that will include and express the sum total of the loss by death, by sickness and the cost of mental suffering that is entailed by diseases that are preventable, and that are not preventable. One of the most striking features of this paper, and one possibly we were not familiar with, is the fact that only fifty-three per cent of the population of the United States is in the registration area. In the last analysis, it is unquestionably true that the preservation and perpetuation of human life are the most important factors to be considered. This is true, whether considered from a personal, social, state or a national standpoint. The only way we can estimate the amount of loss represented by deaths and sickness is by employing a money value. We have as yet, as Dr. Wilbur has pointed out, no complete system of registration. Therefore, for the purpose I have in mind, it will be necessary to use the figures that are procured in England. Dr. Farr, of England, has made an exhaustive study of this subject, and he undertakes to estimate the value of human lives and human activity. He has figured that each infant born in the United States is worth ninety dollars. That ninety dollars is the discounted value of that man's earning capacity, discounted by its probable life, discounted by the cost of

maintenance until it has reached the productive age, and discounted by the loss of wages for that time, and discounted also by the cost of maintenance after that infant has reached a period at which he is no longer productive. At the age of five, the value is increased to \$950.00 for each child. At the age of twenty, the valuation is \$4,000.00; at the age of thirty, it is \$4,100.00; at the age of fifty, it is \$2,000.00; at the age of eighty, it is \$750.00 less than nothing. Therefore, by an extremely difficult series of computations, he has found that the average worth of a human being, and every one in the United States, is \$2,900.00. Based upon the estimated population of the United States in 1907 of 85,000,000, the death rate being 18 per thousand, there were 1,500,000 deaths. This gives a fair annual death rate. The number of deaths, preventable, is given as 42 per cent, or 630,000. This number multiplied by 1,700, the average economic value of each life sacrificed by preventable disease, gives an annual, preventable, loss of \$1,070,000,000. Estimates place the number who are sick all the time at 3,000,000. Of these probably one-third are wage producers, making the total loss per annum from sickness \$500,000,000. The cost of medical attention, nursing, medicines, etc., is placed at \$1,500,000,000 per annum. Taking into consideration these facts and the estimated rates of preventability of diseases, the State Board of Health of Kentucky in the report of 1908 and 1909 makes the fair statement that the annual preventable loss (and as Dr. Wilbur has added in parenthesis, "therefore ought to be prevented") is \$1,500,000,000. Is it not more than passing strange that a government that takes into consideration the minutest details of expense in managing its affairs, spends millions for recording legal documents and transactions, preventing hog cholera, and promoting agricultural pursuits, punishing moonshiners and building canals, should permit its most valuable assets and liabilities, the people of the nation, to become sick and die of preventable diseases, to be born and die of diseases not preventable, and that government never make a debit or credit upon its profit and loss account? Is it not stranger still that in this day when we hear so much about the conservation of resources, that the leaders of that movement leave, as a matter of least consideration, this conservation of the lives and health of our people when the annual loss, subject to cancellation, is \$1,500,000,000. It can be said to the credit of the medical profession of the country, however, that they are apprised of the value of this phase of observation, and the spirit of their intentions is manifested in the effort to create a national department of public health, and we confidently predict that in another year we shall have created such a department that shall work untold good for the people of the nation.

If the doctors of Kentucky have been guilty

of any dereliction of duty, they removed that burden of responsibility when at the last session of the legislature they caused, by their active co-operation, the enactment of laws that put Kentucky by leaps and bounds in the front rank of those states that are doing most good for the health of their people. The appropriation of approximately \$30,000 enabled the State Board to employ a state sanitary engineer, to equip a chemical and bacteriological laboratory, to hold annually a school for teaching our state and county health officers better means of fighting disease and creating and maintaining a bureau of vital statistics.

These departments are interdependent, and their greatest usefulness will be exercised only when their relations are closest.

The Vital Statistics Bureau will be of inestimable value to the board in preventing diseases and exterminating them when found. For example, the returns to the bureau show too much typhoid fever along a water course, at the foot of a water shed, as determined by the sanitary engineer, or in a city where the water supply is imperfect or the sewerage bad. At present there is no means of determining these facts accurately, if at all, and with such facts, miscellaneous gathered from all the counties and practically tabulated for use, the board can adopt such regulations as will be necessary to stop these epidemics.

It will be of valuable service to the doctors and people generally of the state. Where in the state to-day can you consult a properly classified report of diseases occurring in a hospital or community? What is information to be obtained from the records of the City Hospital of Louisville, for example, that will be of any value in studying causes, courses and results of treatment of diseases? When our morbidity department is established, every hospital or institution for the reception of the sick or afflicted, will be required to keep such a record of the personal and statistical particulars as the State Board of Health may require. How many here know how many cases of typhoid, tuberculosis, scarlet fever occurred in your town, county or city last year? Did your typhoid occur for miles along a water course or at the floor of a water shed, or was it due to bad drainage or milk supply, or by means of the fly breeding in filth that ought to have been removed? If you will pardon the unpleasant suggestion, how many of you can establish beyond the shadow of a legal doubt that your grand-parents were the legitimate children of their parents? If so, that they were such of their parents? Usually the proof lies in the old family bible that was lost or destroyed years ago. A consideration of these questions and others that will present themselves will lead us to see the value of our bureau in the way of preventing, studying and checking disease and main-

taining family history and protecting property rights.

In conclusion, we may state that the Bureau of Vital Statistics is the adopted infant of the doctors of Kentucky and, like the Shakespearian and all other infants, it "at first, lies mewling and puking in its nurse's arms." And it is a duty devolving upon the medical profession of Kentucky to so nourish and support that infant by giving it their united support in the way of prompt returns, completely filled and accurate reports of births and deaths, that it may pass successfully through the various stages of development till it reaches that of the soldier, not "seeking the bubble reputation," like the one depicted by the moody Jacques, but a soldier, imbued with the fine spirit of its foster parents, the medical profession of Kentucky, officered and generated by the State Board of Health, that shall fight for the upbuilding of our state and national resources, for a more complete and scientific understanding of the cause, course and results of disease, for the preservation and perpetuation of human life, and for the amelioration of the mental and physical sufferings of afflicted humanity.

W. W. Richmond, Clinton: It occurs to me that the excellent paper just read is timely, and of special importance to the people of Kentucky, since we are just entering upon the establishment of a law of registration of vital statistics. The paper should have the careful consideration of every doctor in the state.

The importance of vital statistics has never been fully appreciated by the average doctor. It has been generally regarded a matter of curiosity and satisfaction belonging chiefly to the statistician as a record for reference, with no direct personal benefit to the public. But the essayist has clearly shown the great benefit to be derived from a careful registration. He has shown that the prevention of disease and premature death depends largely upon the successful operation of a law of vital statistics. Also, that premature deaths may not only be decreased, but that the period of old age may be extended far beyond what it now is.

This is, indeed, Kentucky's opportunity for making an enviable name for being in the vanguard of progress in the south. And the medical profession, the best educated class in the state, as a leader in every good work, should realize that the success of the law of registration depends upon the promptness and correctness of its reports. Therefore, the organization should take the matter in hand. Each county society should discuss the question at sufficient intervals to educate the members to the plan of operation and to create a general sentiment for its support.

I would like to accentuate the essayist's remark concerning indiscretions of young men. There are many such thoughtless conspirators

against old age. These social extravagances flaunt the germs of future weakness in their minds and bodies. Doctors should come into as intimate contact as possible with young men. Many parents never advise them; hence the doctor should cultivate their confidence.

A recognized nomenclature is very important, little less than necessary, in the operation of the law, and thanks to the American Medical Association, which has brought so many blessings, this great need will doubtless be supplied. With careful study of the plan and the doctor's usual habit of making sacrifices in his daily work for the good of others, the law of registration in Kentucky should be a grand success.

Walter Byrne, Russellville: It has been said that "It is better to give than to receive," but we to-day question the truthfulness of the old saying, for I am sure that every one who has listened to the paper just read by Dr. Cressy L. Wilbur, of Washington, D. C., will agree with me that the pleasure is certainly mutual, if not just a little on the receivers' side. And I feel safe in saying that we heartily endorse all that he has said.

A long-felt want in our government; a crying shame to our public men, is the lack of vital statistics. A smirch upon our intelligence and a great wrong to all our citizens, is this failure to honestly and faithfully, compile and preserve vital statistics of our country. That Kentucky has been one of the first of Southern states to enact laws, to gather and compile such valuable assets, is very gratifying; and the enforcement of these laws bearing upon this important subject should be the pleasure, as well as the duty, of each and every doctor in our state. Like Dr. Wilbur, I believe it all depends upon our doctors as to whether any value or worth shall be attached to Kentucky's vital statistics. Better no statistics than false ones; so let every mother's son take heed, and here and now promise and vow that we will do all in our power to foster and uphold this law.

We, the doctors of this state must and should take great pride in seeing this good work go bravely on to its full fruition; not only in this state, but throughout this glorious nation of ours. And along with this work, too, should go a set purpose to see fully accomplished and completed the "pet idea" of our worthy Secretary of the Kentucky State Board of Health, Dr. J. N. McCormack, a recognition of our importance in national affairs by the appointment and establishment of a Secretary of Public Health as one of the Cabinet officers of these United States. We owe it to ourselves to see that some recognition is given us; too long have "our talents lay hidden under the bushel measure." Why, even the "vet" and the "bugologist" have their merits recognized via the Secretary of Agriculture.

"Then let us be up and doing,
With a spiel for any date;
Still achieving, still pursuing,
Learn to labor but not to wait."

Dr. J. N. McCormack has, by his untiring efforts, assisted by his well chosen co-workers, accomplished much good, and at last had enacted this law; so it certainly behooves us all, each and every one, to put our shoulders to the wheel and make good.

Dr. Wilbur has come here, and in his clear, concise and intelligent treatment of his subject elucidated the good that will come out of the enforcement of this law; and has as convincingly shown that upon us rests the success of this great work, the gathering of true vital statistics, which shall be to us a pride and joy, and to the rising generation a help in time of need, so go now with a fixed determination to leave no stone unturned, no good word unspoken to uphold and enforce this law. Also to see that we have a Secretary of Public Health in the Cabinet. Do this for the betterment of your profession; for the betterment of your community; and for the great good of your fellow beings. And then you can go to your needed rest, as no doubt you often do, comforted and soothed by the knowledge of a duty well done. So when we meet next year I hope to hear each and every one say, in the classic language of the cow-puncher, "I have done my derndest."

THE NATURE AND TREATMENT OF SPLENIC ANAEMIA.*

By B. E. GIANNINI, COALMONT.

When we are brought to the point of defining the term "splenic anaemia" with accuracy, we will find that we have to proceed with caution. So, because the morbid processes associated with the unfolding of this affection are so varied that we are not sure, at all times, whether the disease should have a distinct nosological place.

A careful perusal of the literature of the disease, I believe, would lead one to the adoption of this view. Still "splenic anaemia" is a recognized term, and carries with it a more or less agreed collection of symptoms.

The best general definition of splenic anaemia that I have found in my study of the literature of the subject is that given by Dr. Max F. Simon, an eminent English observer. In his article in Quain's Dictionary of Medicine, he says:—"In this affection, sometimes called primary splenomegaly, it is probable that the splenic disease is primary; the anaemia is progressive and characterized by considerable diminution in the number of red corpuscles (which, however, rarely fall be-

low 50 per cent. of their normal quantity); by great diminution of hemoglobin, and by a lower color index than any other form of anaemia; there is no increase in the number of leucocytes. The spleen is greatly enlarged, though not to the extent often met with in splenic leucocythemia, it is tender; and the patient is subject to attacks of pain in the region of the gland. The spleen may weigh from two to eight pounds, and contains enormous numbers of large nucleated cells enclosing blood corpuscles; there is general fibrosis of the organ, the capsule is firm, and it and the trabeculae are thickened; the pulp appears to be diminished in quantity and the Malpighian bodies are small and atrophied; there may be peritoneal adhesions. There is often some irregularity of temperature, but no enlargement of lymphatic glands. Hemorrhage is infrequent and the stomach is the commonest source. The disease is generally fatal in three years."

This general definition of splenic anaemia by Simon can be truly said to reflect, in a correct and succinct manner, our knowledge of the nature of this morbid process.

Prof. Stockman of the University of Glasgow has studied the subject of splenic anaemia very thoroughly. He wrote the chapter on this subject in Hare's System of Therapeutics on the subject of the etiology of splenic anaemia, he says:—"As a matter of fact our knowledge of clinical and pathological data bearing on the condition is, as yet, much too limited to enable us to come to any satisfactory conclusion as to its cause, but I have seen a case in which acquired syphilis, rickets, and malaria could with certainty be excluded from the patient's previous history."

I could give other authorities to prove that the causation of splenic anaemia was shrouded in much doubt, but this would be quite unnecessary.

Splenic anaemia occurs at all periods of life, but is seen more frequently in those in mature or middle age. It usually begins with a slight pain in the splenic area, and this is accompanied by debility which increases. Later on the pain in the region of the spleen comes on with greater frequency and intensity. There is soon manifest a considerable enlargement of the spleen. Enlargement of the abdomen results from this increase in the size of the spleen, and the anaemia steadily progresses. Finally the anaemia is most pronounced, and death may occur at any time from hemorrhage or exhaustion. In nearly, if not all, cases, there is more or less enlargement of the liver. Dyspepsia is a common symptom in splenic anaemia. Diarrhoea is seen in some cases, while in others constipa-

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tion is present throughout. Some of the patients who present themselves with splenic anaemia will tell us that they have a "lump in the side," and their appearance does not indicate grave anaemia, and we may therefore often fail to estimate the gravity of the disease. Hemorrhage from the bowels, the nose, stomach and gums are by no means uncommon.

A study of the clinical phenomena will make the diagnosis as sure as the nature of this condition will allow. As may be deduced, from the foregoing, anything like a sharp diagnosis line as is possible in other disease conditions, is out of the sphere of possibility, in the early stages of splenic anaemia, while it is boldly manifest in its final unfolding.

As a means of cure, Splenectomy has been proposed, and has been carried out by several observers.

Personally I think the removal of the spleen offers more hope than can be otherwise promised. In some cases that have been reported the results have been successful. Still Stockman has pointed out that there has not been published any account of how long these patients lived after the removal of the spleen and that is, of course, a very important matter for consideration, when we are brought to the point of deciding whether we shall advise our patient to be operated upon or not.

To help us on this point let me quote the words of Stockman:—"Spanton has collected 38 cases of 'hypertrophy' of the spleen in which splenectomy was performed. Of these 18 recovered, but it is impossible to say whether they were all cases of splenic anaemia."

The employment of drugs for the permanent or temporary relief of splenic anaemia cannot be said to have been such as to inspire confidence in our ability to cope with the affection by that class of weapons. Still one reliable author (Taylor) has obtained temporary relief in the simultaneous administration of arsenic, potassium iodide, and oxygen gas to the amount of 30 litres daily. The conservative physician will always follow paths that others have found to lead to desirable ends, and I, therefore, hold that those cases treated medically should be given iodide of potassium and arsenic while the inhalations of oxygen should be persevered in. Fowler's solution should be given in doses of seven minims after meals, while iodide of potassium is to be taken in doses of five grains in solution an hour before meals. I have great faith in the action of oxygen inhalations and the patient should, in all cases receive thirty litres daily.

DISCUSSION.

S. R. York, Centre: I congratulate Dr. Giannini on his splendid presentation of the subject of splenic anemia and, as he says, when we review the literature upon this subject, we are made to doubt its place as a separate disease, as Dr. H. C. Wood, in 1871, described it as the splenic form of Hodgkin's disease. The other form of Hodgkin's disease, with lymphatic involvement, is the more common variety. I believe most authors concur with Dr. Wood, but Strumpell and Banti and others think it should be regarded as a special form. Some think it is a primary anemia, others think the changes in the blood are due to a secondary anemia, and among these are Wintworth and others. Be this as it may, we will have to await further investigation, and the cases are so rare that many years may elapse before the true nature of this disease is made certain.

I have seen only one case, that of a colored man 65 years old, well developed, weighing about 180 pounds, living in a malarial district in Tennessee. His previous health was good. He complained of weakness and a large, tender spleen. I thought it was due to chronic malaria, put him on quinine, iron and arsenic in quantities sufficient to have effect on the malaria, but his condition went on until we thought there was some malignancy about the case, until he had purpuric spots and hemorrhages from gums and stomach, when the true diagnosis was made as we thought, and death in about two months after the appearance of hemorrhages. The loss of strength was marked from the beginning, but loss of flesh was slight, about ten pounds in all. We had no means of making a hemoglobin analysis. Had we done so I would have expected to have found no leucocytosis and almost or quite normal, red blood corpuscles count, from 3,700,000 to 4,000,000 per c. m., with great reduction in the hemoglobin, perhaps 40 to 50 per cent. Whether there is an increase in the destruction of the hemoglobin or decreased production, we do not know, and authors, again, disagree, and until we know more of the etiology, our treatment must be expectant. We must expect them to die; and as we know the condition we should give, as Dr. Giannini says, oxygen, and I would begin early by advising moderate exercise in the open air, with plenty of nutritious diet, also iron, arsenic and potassium iodide. As to the advisability of splenectomy, I think we should have more light on the subject, and I would be glad to hear from some one who has had experience in these cases.

J. T. McClymonds, Lexington: Splenic anemia is a little more prevalent than we are led to think. At least, I have seen two cases in the past ten years in Lexington. One of these cases was sent to me with a diagnosis of ulcer of the stomach. The patient had had in all six copious

hemorrhages, none being under 800 c. c. None of the symptoms of ulcer of the stomach was present, with the exception of hemorrhage. An exploratory incision was made, the stomach opened and the entire mucous membrane found covered with little hemorrhagic points. The spleen was somewhat enlarged, about one-third larger than the normal. It showed a good deal of scarring, and there were a great many adhesions. These adhesions were broken up, and I am sorry to say, a diagnosis was not made until two days after the operation, and we hoped the starting up of collateral circulation would have some effect on the disease. The patient died about a month following the operation.

The second case was one where hemorrhage was from the bowels. In this case a diagnosis at first was made of cancer of the rectum, but the sigmoidoscope showed absolutely nothing wrong there. The hemorrhages continued; an exploratory operation was performed and nothing found. The patient died some weeks later. At the post-mortem examination all that could be found was a slight enlargement of the spleen. We know little or nothing of the pathology of this disease. It is supposed to be an enlargement of the spleen. Following this enlargement first described by Banti, the liver became sclerotic and in the terminal stage of ascites may develop, and a differential diagnosis between Banti's desiorx and peplio cirrhosis could only be made with certainty by exploratory operation or post-mortem examination. The blood picture does not show anything pathognomonic. It shows anemia, and you may get anything at any stage of the game, so to speak. If you examine the patient at one time you will find a simple anemia, and at another stage you will find an increase of the white cells. These may run to thirty, forty or sixty thousand. You may find a picture of pernicious anemia later, or this may disappear, so the blood examination does not help out very much. You simply know that the blood picture varies largely with the time the blood examination is made.

In regard to the glands, there are some cases reported in which general glandular enlargement was observed. The pathology, as I have said, is unknown, and I suppose it will be some time before it can be thoroughly worked out.

Frank Billings, Chicago: I think the term splenic anemia is now restricted to those patients who have primary splenomegaly, as it is called, although I think that process could not be proved by the analysis of cases or of patients who suffer from the disease.

The tendency is to throw out those patients who have enlarged spleen from malaria or other infectious disease. As has been stated, it is a toxemia, but that also is not true in every instance. There are reports of patients on record who have suffered from all the typical signs of splenic anemia, who have had thrombophlebitis as the pri-

mary lesion either of the splenic vein or of the portal. Splenomegaly, the primary form, or splenic anemia, as just stated, has no distinctive blood pictures excepting when there is anemia, it always is a secondary anemia, that is, the hemoglobin is of much less per cent than the red cells. Usually, unless there is some infective process going on at the same time, the white cells are smaller in number, and not large. There is a tendency with the greater number of patients to pigmentation of the skin and, at the same time, these patients are apt apt to have other areas of the skin in which the pigment disappears. I have had several patients showing that feature especially. Hemorrhage from the stomach is due, in all probability, to the congestion of the splenic vein. You will recall that anatomically the veins of the greater curvature of the stomach empty into the splenic vein. Any congestion of the splenic vein is apt to cause congestion of the veins in the greater curvature of the stomach, hence hemorrhage may occur in the disease. After hemorrhage there may be marked anemia. In all cases in which there is a toxemia as the cause, with splenomegaly, surgery in the treatment, and although the operation of splenectomy is a severe one, yet if it is done early, before the spleen is too greatly enlarged, or before numerous dense adhesions are formed between it and the diaphragm, it may be successfully done. Calcareous infiltration not infrequently occurs in the adhesions, and the removal of the spleen is attended with much hemorrhage. I have seen two patients die practically upon the table from uncontrollable hemorrhage from the separation of the adhesions between the spleen and the diaphragm where there was calcareous infiltration into the adhesions. But if the operation is done early, and by a skilled surgeon of to-day, there is chance for recovery. I have one patient in Chicago whose spleen was removed in 1899, eleven years ago, who is as well as he ever was, and there are many cases on record. Dr. Harris and Dr. Herzog, of Chicago, reported some eight or nine years ago several splenectomies for the disease and the patients, many of them, recovered, and were well at the time the report was made. The best report clinically upon the disease is that made by Dr. Osler of fifteen or eighteen cases of the disease collected and printed in the American Journal of the Medical Sciences in 1898, some twelve years ago. That was an analysis of all the cases he could collect from others. Two of these I sent to him with the blood pictures, with the pathology, and with the spleen after removal either post-mortem or at operation, and giving the duration of life. One of his patients lived some fourteen years after splenectomy.

SYMPOSIUM

DIAGNOSIS AND MEDICAL TREATMENT OF CIRRHOSIS OF THE LIVER.*

BY GEO. W. PAYNE, BARDWELL.

Cirrhosis of the liver is an increase of connective tissue producing hardening of the organ in all forms of the disease. The atrophic or hobnailed liver is the most common form and alcohol in its stronger form is the most common cause. In some cases syphilis is the cause; in others, malarial; in others, anthracosis; in others, infectious diseases and in others it can not be attributed to any known agency. Again, there may be granular livers in which the fibroid tissue is formed between the lobules and which never contracts, an interstitial hepatitis, or hypertrophic cirrhosis. Cirrhosis is essentially a disease of middle aged men. It is less common in women and comparatively rare in children.

SYMPTOMS.

The symptoms of atrophic cirrhosis have been divided into those of the first stage and those of the second stage. First, we may say that there are no symptoms by which we can recognize the disease at an early period. During the first stage the liver is somewhat increased in size and then it becomes lessened. We have chronic gastric catarrh with morning retching or vomiting, loss of appetite, tenderness in the epigastrium, dull pain, disordered digestion, constipation, sallow hue or slight jaundice or yellowish tinge coming and going, loss of flesh and strength. During the second stage more severe symptoms may arise due to the obstruction of the portal capillaries. As it increases oedema of the legs may be developed, the spleen is enlarged, we have diminution of percussion, dullness in the hepatic region, and if the ascites does not interfere we can detect by the touch firm irregular granulation on the margins or under surface of the liver. Hemorrhages occur from the nose, throat or from the gastric intestinal tract. Dilation of the abdominal veins comes on in the advanced stage of the disease. As pointed out by Sappey the blood in the enlarged epigastric veins flow in the opposite direction to what it does normally, that is, it flows from the liver to the veins of the abdominal wall and thence to the vena cava. The veins in the legs may become varicose, venous twigs may form on the cheeks and nose. As ascites develops the urine becomes scanty, dark and loaded with urates and uric acid. In some cases it may contain

sugar or albumin. At any stage of atrophic cirrhosis the patient may develop cerebral symptoms either a noisy joyous delirium or stupor, coma, convulsions and death.

There is another form of cirrhosis which is not so common as the one just described. Hypertrophic or biliary cirrhosis or interstitial hepatitis or Hanot's disease. These cases occur in young persons and as a rule there is no alcoholic history. The liver is uniformly enlarged, jaundice ensues very early and persists throughout the disease. There is bile in the urine and the stools are of a dark color. There is pain in the right hypochondrium. Ascites is less common and may be entirely absent throughout the disease. If it does not appear it is very slight; the spleen is enlarged and very hard. We have an absence of dilatation of the abdominal veins. Hemorrhages may occur; fever may set in at any time, due perhaps to biliary obstruction, it comes on with paroxysms associated with increased jaundice.

Syphilitic cirrhosis has the same symptoms as the alcoholic cirrhosis, with the addition of syphilitic history, the marked irregularity of the surface of the liver and perhaps the existence of syphilis elsewhere.

Summing up all the symptoms there is not one characteristic they become so when viewed in connection with the dropsy, local signs in the hepatic regions, history of the case and with the absence of any organic disease of the stomach or intestine which might explain them, the age of the patient and his habits.

TREATMENT.

Atrophic cirrhosis of the liver is incurable. So far as we know there is no drug that can remove the cicatricial connective tissue; on the other hand we know that these conditions can exist for years when the compensatory circulation exists. The patient should abstain entirely from alcohol and live on a milk diet as near as possible. The diet should be nutritious but not too rich. Reduce the gastro intestinal catarrh if possible and have your patient to lead a quiet out of door life. Keep skin active, bowels open and plenty of urine. For the ascites at its onset or to prevent reaccumulation after tapping we may use such cathartic as magnesium sulphate, compound jalap powder or minute doses of calomel. As diuretic give bitartrate of potash, diuretin or combination of calomel, digitalis and squills, or infusion of digitalis, fl. ext. fringetree is also useful.

Lavage will be found useful in most cases, bitter tonics and acids may increase the appetite. If hemorrhage takes place from stomach or intestine apply ice to the abdomen, morphine hypodermically and rest. If you

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have a diarrhoea that is too profuse give bismuth subnitrate or tr. krameria or tr. catechu. In the syphilitic cases or when syphilis is suspected iodide of potash and mercury should be given in large doses.

DIAGNOSIS AND TREATMENT OF CHOLECYSTITIS.*

BY IRVIN ABELL.

An ever-increasing experience has taught us that, while stone formation is the most frequent difficulty calling for treatment, there are many lesions of the gall passages that earnestly demand our attention; these range from simple catarrhal involvements to those dependent upon infection and cover a wide range of pathological changes. Among these, catarrhal and suppurative involvements of the bile tract, empyema and gangrene of the gall-bladder, ulceration, stricture of the ducts and perforation of the gall-bladder or ducts, are all noted, both with and without the presence of stones.

When we consider for a moment the anatomical relations of the gall-bladder, its dependent position under the liver, its small duct, we at once realize the importance of bacterial invasion and the serious changes that might have their origin in the various forms of obstruction to drainage. The bacteria enter by way of the common duct, the portal and systemic circulations. In the presence of obstruction to the outlet, either of the gall-bladder or the common duct, the advent of infection always means resultant damage of a more or less serious nature.

A. O. J. Kelly, in an article published in the *American Journal of the Medical Sciences*, speaks of the results of infection of the biliary tract as follows:

"What is the immediate result of infection of the biliary tract? As in other mucous canals, . . . the production of a catarrh, with the usual inflammatory phenonema—odema and congestion of the mucous membrane, increased production of mucus and desquamation of epithelium. If the biliary circulation is free and unimpeded the results of this catarrh are washed away for the most part, but on account of special local conditions (largely dynamic) they are likely to accumulate, to become accentuated, and to persist in the gall-bladder. In the event of obstruction to the free flow of bile these are the more certain to occur. In many cases the lesions thus provoked are entirely latent or unannounced by noteworthy or unequivocal symptoms;

they may pursue a short course, or they may continue for years; and they are one of the most important factors,—in fact the important factor—in the etiology of gall-stones.

"This infection of the biliary tract is of the utmost significance, and forms an integral part of what is commonly designated calculous cholecystitis and cholangitis. The phenomena may develop:

"(1) acutely, without preceding clinical signs referable to the gall-bladder;

"(2) subacutely, and

"(3) chronically."

The ensuing pathological lesions are of the greatest diversity: Thus, for instance, gall-stones may or may not be present, and the concomitant inflammatory phenomena may be of varying grades—from the mildest catarrhal lesions to widespread phlegmonous and ulcerative processes that may lead to perforation or gangrene of the gall-bladder; gall-stones, if present, may be quiescent or active; they may be present in the gall bladder or in any one of the ducts, or in all the ducts, or in the ducts and not in the gall-bladder; they may cause an acute or chronic, partial or complete, temporary or permanent, obstruction of the cystic, hepatic, or the common bile ducts, and, on the other hand, such obstruction may occur in the absence of gall-stones (being due to swelling of the mucous membrane, kinking of the ducts or obstruction from without) and in the presence of gall-stones the ducts may be partially or completely patulous; the gall-bladder may be distended or contracted, its walls thinned or much thickened, and its lumen ultimately may become almost, if not quite, obliterated, it may contain bile, mucus, blood, or pus, or combination of these, in addition to or in the absence of gall-stones, adhesions may form between the gall-bladder and adjacent structures, (the liver, the stomach, the duodenum, the colon, the omentum, etc.) and by way of the adhesions the gall-stones may rupture into the gastro-intestinal tract and sometimes cause intestinal obstruction; or purulent peri-cholecystitis and peri-cholangitis, localized or generalized peritonitis, pyelophlebitis, pericholangitic abscesses of the liver, fistulae, acute and chronic pancreatitis, etc., may ensue; and, finally, in some cases, a general bacterial, often pyrococcal, infection, with or without multiple abscess, may develop. Furthermore, Deaver states that the long-continued infection may seriously involve the arterial and urinary systems, producing a degeneration of the myocardium and kidneys that the surgeon is often loath to operate.

To those whom operative work has afforded the opportunity of studying these changes during life, their importance has been made

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apparent and the diagnosis, or symptoms leading to diagnosis, have been made plainer. The day has long since passed when we depend upon the classical symptoms of jaundice, colic and the passage of stones before making a diagnosis of serious lesion of the biliary tract, and while at the present time we must admit that our methods of diagnosis have not reached such a stage of perfection as to permit us readily to recognize each and every lesion in the upper right quadrant of the abdomen, our methods of recognition have become so refined that we can with certainty detect the existence of lesions of the bile tract even though it be impossible, in many instances, to state the exact character of the lesion before subjecting our patient to abdominal section.

It is the purpose of this paper to bring this subject before you for discussion, hoping that a hopeful exchange of experiences will serve to increase our appreciation of the gravity of certain symptoms which heretofore have so frequently been treated as purely and simply of a functional nature. The intimate relation existing between the bile passages and the digestive system gives rise to evidence of digestive disturbances which for a long while may be the only symptom of lesions of the biliary tract; it is always a matter of importance to recognize such lesions early if we wish to avoid the serious complications which so frequently arise in their course, we should give our patient the benefit of a thorough and systematic examination and a careful observation over a sufficient period of time to enable us to arrive at a satisfactory conclusion. It may be stated here that many of the conditions are quite easily recognized, while others, particularly in their incipency, will test the ability of the most experienced. Stones in the gall-bladder may or may not give rise to symptoms, but infection of the bile passages or obstruction in any part of their course, invariably produce symptoms of more or less definite character. It has been conclusively proved that gall-stones are present only as the result of the diseased condition of the bile and the bile passages, and, further, that there is no medical treatment which will insure their passage or solution; as the damage which they inflict is either of a mechanical character or furnishes a predisposing condition to active infection, it seems to the writer that, for practical purposes at least, we should study these cases, both from a diagnostic and therapeutic standpoint, as either infections or obstructions to the proper drainage of the biliary system.

Taking first the milder type of cases, we find we are dealing with catarrhal changes of the mucous membrane of the gall-bladder

or ducts; the pathology of such cases usually implies either a mild type of infection alone or irritation dependent upon the presence of calculi. It is this type which so frequently presents difficulty of detection and it is to these in particular that I request attention, since they usually represent the incipient stages of the condition that, later on, menaces not only the health but the life of the individual and which, while at a later period is much more easily recognized, entails severer and more dangerous treatment and offers a less rapid and satisfactory cure than if recognized early.

The symptoms which should direct our attention to the gall-bladder and bile passages are the following, chief among which are digestive disturbances: digestive disturbances, due to indiscretion in diet, are of such frequent occurrence as to attract ordinarily but passing attention either from the patient or the attending physician; when, however, they occur with frequency, after the ingestion of the ordinary and easily digested articles of diet, they possess more than a passing significance. These disturbances consist largely of (so-called) indigestion, a sense of weight in the epigastrium, a certain amount of burning in the pit of the stomach, and quite a bit of gaseous distension; there may or may not be nausea and vomiting, and there may or may not be colicky pain. Such attacks are usually relieved by a brisk purgative. If such disturbances be dependent upon a lesion of the gall-bladder or ducts, careful examination usually elicits one or more of the following symptoms: the dull pain which is noted in the epigastrium during the attack of supposed indigestion, extends around the ribs to the spine, being usually felt upon the right side, and frequently has a point of intensity at the inferior angle of the scapula; this pain does not disappear promptly with the subsidence of the gaseous distension, but, persisting, gives rise to tenderness over the gall-bladder, and particularly tenderness upon deep pressure, at a point corresponding to the location of the gall-bladder, extending downward and forward toward the umbilicus. Frequently the skin, following such an attack, is more or less sallow, indicating deficient elimination; oftentimes the liver is slightly enlarged and tender; there may be a fractional elevation of temperature during and immediately following the attack.

The persistent recurrence of the above-described symptoms, particularly if they influence the general condition of the patient, causing loss of appetite, constipation, flatulency, urticaria, or migraine, and when uninfluenced by medical treatment, demand mechanical drainage. The medical treatment

that is of value in such conditions has for its object chiefly the promotion of bile drainage since we unfortunately are unable to introduce medicine, by means of the general circulation, which will exert a distinct curative influence upon either the gall-bladder or bile tracts or to so materially change the character of the bile as to give it a solvent action. Such treatment consists first in absolute rest during the time of attack. It has been found that contractions of the stomach will induce contractions of the gall-bladder and in the presence of either obstruction or irritation this gives rise to pain, consequently the stomach should be put at rest by first washing it out and afterward abstaining from the introduction of food therein; the bowel must be thoroughly emptied and the pain may be relieved by aspirin or a small dose of heroin. Between such attacks the patient should be kept upon light, easily digested, diet, should drink an abundance of water, and should be allowed moderate exercise; the bowels should be kept freely open and, as in many instances the obstruction is due to catarrhal swelling of the biliary mucous membrane, material benefit will be derived from the saline purgatives, particularly the phosphate and sulphate of soda.

Many medicines have been reputed to possess qualities which so change the character of the bile as to exert a curative influence upon the lining membrane over which it passes. Notable among these are sodium succinate, sodium glyco and tanno-cholate, sodium salicylate and olive oil. Whatever may be their action, certain it is that many of these milder type of cases improve, and many secure permanent relief, under the treatment outlined above. In the event, however, that the above-described symptom complex persist in the face of the treatment outlined, we should do that which, in such cases, nature fails to do—provide mechanical drainage.

When there is marked obstructions, either of the cystic duct or common duct, recognition is a matter of comparative ease. In addition to the symptoms already mentioned, we now have well marked attacks of colic, the pain being referable to the gall-bladder area. The location of the pain is not constant in all cases: in the majority it is referred directly to the gall-bladder, passing from there into the back, usually at a point corresponding to the inferior angle of the scapula; in other instances, it is referred, either to the umbilicus, or to a point slightly above and to the right of the latter; in still another class, it is referred to the epigastrium immediately below the ensiform cartilage. Physical examination usually permits us to recognize the gall-bladder as the cause since pressure on the

point to which the pain is referred does not, as a rule, increase the pain, while pressure on the gall-bladder itself gives rise to pain directly at this point or increases that referred to the epigastrium or umbilicus. In many instances, there is marked tenderness over the gall-bladder itself and this can be appreciated, either with the patient in a recumbent position, or, in doubtful cases, by having the patient sit in a chair or on the side of the bed, inclining the body well forward; the physician, standing at the patient's back, makes pressure under the costal arch at the end of the ninth rib directly over the gall-bladder; if the gall-bladder be the cause of the pain this will, as a rule, serve to differentiate it from the pain which is produced by movable kidney. If the obstruction be in the cystic duct the gall-bladder will frequently be enlarged, and, if the abdominal wall be sufficiently thin, can readily be detected by palpation. The presence of jaundice depends upon either a stone in the common duct or inflammatory swelling of its mucous membrane, the latter being frequently due to disease of the gall bladder and cystic duct.

The observation of different authorities upon the presence of jaundice as a symptom of gall-stones differs materially. Murphy, of Chicago, states that it was present in ten per cent. of his cases, while Deaver, of Philadelphia, states that it was present in ninety per cent. of his series. It would seem that this wide discrepancy may be accounted for by faulty methods of observation in the history of the patient. We all know that patients are, as a rule, rather inaccurate in their observations of such phenomena. In some, the slight sallowness which accompanies an attack of cholecystitis is characterized by them as jaundice, while in still others a mild degree of jaundice is entirely overlooked.

While the presence of jaundice is a most valuable corroborative symptom in making a diagnosis, its absence does not mean that the gall-bladder is not diseased—simply that the common duct is not obstructed. The presence of fever depends upon whether or not an active infection be present. Such cases present no difficulty of diagnosis and the indications for treatment are equally plain, viz.: the removal of the obstruction and the institution of drainage. In these marked and more advanced cases, the obstruction will always be found to be due to calculi or the effect of their long-continued presence, viz.: strictures, fistulous communications between the gall-bladder and neighboring intestine, or marked angulations of the bile passages due to adhesions or inflammatory deposit.

It is well to remark, in passing, that there

are two pathological conditions, one of which is very frequently associated with gall-stone disease, and both of which may complicate the condition or render the diagnosis obscure. I refer to chronic pancreatitis and movable kidney.

The fact that the common bile duct empties into the intestine in conjunction with, or closely associated to, the pancreatic duct, explains the frequency with which chronic pancreatitis accompanies gall bladder disease. The inflammatory products, passing from the bile duct into the pancreatic duct, set up inflammation in the head of the pancreas; this inflammation interferes with the function of the pancreas and intensifies the accompanying digestive disturbance. In some cases, in which there is no demonstrative lesion, either in the gall-bladder or duct, and which have presented symptoms similar to those described in the chronic and mild type of cases, the disease will be found in the head of the pancreas. This paper hardly affords opportunity to go minutely into the etiology and symptomatology of this type of pancreatic disease, but in the mild type of cases, the depletion, by means of salines, with proper diet and hygiene, will oftentimes lead to a cure; in intractable cases, drainage is always indicated and our means of draining the pancreatic duct is by instituting drainage through the biliary tract.

Excessive mobility of the right kidney, by making traction upon the bile ducts, may so alter their ability for drainage as to induce disturbance of their function, with or without secondary infection. It is well, in all cases in which the abdomen is opened for supposed biliary tract disease, and in which the biliary tract appears healthy, to examine the pancreas and the kidney. In the event of marked renal mobility, this should receive the appropriate treatment of fixation.

The second type of cases to which I particularly wish to call your attention are active infections of the gall-bladder, which occur most frequently, it is true, in the presence of stones, but which are often noted in their absence.

There are three distinct types of infection, viz.: infection with the pus organisms, with the colon bacillus, and with the typhoid bacillus; infections with the germ of influenza and pneumonia are also noted, but, as a rule, do not give rise to the marked disturbance which so frequently follows on invasion by one of the three mentioned germs.

The typhoid bacillus usually reaches the bladder through both the systematic and portal circulation. It has been stated that it may

be cultivated from the gall-bladder in practically all cases of typhoid fever. It is undoubtedly true that, not only in many cases of typhoid does it give rise to violent inflammation of the gall-bladder, but that its continued and persistent presence for months or years after an attack of fever causes organic change in the bladder, seriously interfering with the health of the individual. It does not necessarily follow that every case of typhoid fever gives rise to serious disease of the gall-bladder. Enlargement of the gall-bladder, with tenderness over same, is in some instances, not recognized; the obtunded sensibility of the patient prevents the recognition of any but rather severe pain and, in many instances, the ducts remaining open, the results of the typhoid inflammation are carried away by drainage through the natural channels. The occurrence of this complication of typhoid is very frequently overlooked; examination in the presence of epigastric discomfort, perhaps slight nausea, some pain in the gall-bladder region, will, in many instances, reveal an enlarged and tender gall-bladder. In the event that the ducts do not afford adequate drainage, the ordinary symptoms of acute cholecystitis and cholangitis develops—oftentimes to a severe degree. The writer has had occasion to operate both upon the acute type complicating typhoid and upon the chronic type which has persisted for months or years after the typhoid infection.

The colon bacillus usually reaches the gall-bladder by the portal circulation, sometimes by traversing the duct; it is the germ which is most frequently found in gall-bladder infections.

The pus germs usually reach the gall-bladder by means of systemic circulation.

The types of infection resemble very much those of the appendix, varying from a mild one, giving rise to but few symptoms, to the severer suppurative and gangrenous inflammations seriously threatening the life of the patient. The milder type of infections present symptoms, not unlike those hereinbefore described, but have, in addition, the presence of fever, malaise, and more marked interference with health; they frequently confine the patient to bed for variable lengths of time, there is apparent improvement only to be followed by relapse. Treatment in the milder type of cases should be medicinal until it is demonstrated that more thorough drainage is needed when it should be established by means of a cholecystotomy. The medicinal treatment to be employed in such instances is rest in bed and light diet. In the event this gives rise to flatulence or digestive disturbance, resort should be had to rectal feeding; the promotion of bile drainage by

means of salines, and the administration of antiseptics.

The acute suppurative and gangrenous involvements of the gall-bladder, in the majority of instances, are easily recognized; the local pain, tenderness, and oftentimes swelling, due either to distension of the gall-bladder or to surrounding adhesions; point unmistakably to the cause of fever and gastric distress; in such instances an attempt at medical treatment is but to invite further disaster. Resort should be had to immediate drainage.

In the fulminating type of cases, the diagnosis is not always easy; the sharp onset, the violent pain, which is not always localized, the vomiting, the distension of the abdomen, the rapid pulse, are seen, with other lesions—notably of the appendix, or a beginning peritonitis, from rupture of some of the hollow viscera; in such instances the antecedent history is of much value in arriving at a diagnosis, particularly the presence of pain or discomfort in the gall-bladder area immediately preceding the onset of symptoms. Such cases usually pursue a rapid course, leading to abscess formation, gangrene, or rupture, and only their prompt recognition and subjugation to early operation gives promise of saving life and restoring the diseased viscus to such a condition as to permit it to carry out its physical function.

The indications for surgical treatment embody two principles:

1. The removal of obstruction and
2. The institution of drainage.

In some cases no abdominal operation is easier; in advanced and complicated cases no abdominal operation is more difficult. The removal of obstruction may mean the removal of stones from the gall-bladder, cystic, hepatic, or common duct. It may mean that the operator must remove, or mechanically overcome, the effects of stricture of either of the ducts; in the case of the cystic duct, this may necessitate the removal of the gall-bladder; in the case of stricture of the common duct, it may mean a plastic operation upon the duct or its junction with the intestine. Obstruction is frequently caused by adhesion and inflammatory deposit; thorough separation may be easy or may present difficulties which tax the most skilful. Drainage may be required in the gall-bladder, in the common or hepatic ducts, and should be made by means of rubber tubing which is stitched into the ducts or bladder. The drainage should be continued for a sufficient length of time to overcome the infection. No operative procedure is complete unless a thorough examination of all the bile passages, demonstrating their patency, is made. With the elimination

of obstruction and the institution of free drainage, we may safely promise our patient, not only relief, but permanent cure with a minimum exposure to danger.

ABSCESS OF THE LIVER; DIAGNOSIS AND TREATMENT.*

By J. I. RATHBURN, RUSSELL.

The classical form, the so-called tropical liver abscess, is very commonly associated with amebic dysentery and is usually single, while those proceeding from ordinary pyemic processes and from appendicitis are usually multiple. It occurs especially among persons who move from a temperate to a tropical climate and do not adapt their diet and mode of life to their environment.

Dr. Rhoad, from his extensive experience, gives the essential features as follows: The patient gives a history of dysentery contracted in a tropical country; the dysentery may be cured or there may be transient outbreaks of dysenteric symptoms; he may at the same time be suffering from a chronic dysentery. He has lost weight, his face is sad, anxious and drawn. The skin is an ashen brown; the eyes are dull and the sclera has a yellowish tinge. The movements are slow and languid because of muscular weakness. He has a sense of fullness or a dragging pain in the region of the liver.

If lying down, he lies upon his back, turned toward the right with the extremities flexed. There is an area of tenderness, more or less marked, somewhere over the right lobe of the liver. There may be an area of edema if the abscess has penetrated the liver and involved the thoracic or abdominal walls. Even small abscesses are quite commonly accompanied by visible dilatation of the subcutaneous veins of the upper part of the abdomen and the lower part of the thorax on the right side, due to interference with the portal circulation.

If purely of the amebic type, the temperature will be normal in the mornings and from 99½ to 100 in the evenings. If due to a mixed infection, partly due to pyogenic bacteria, the morning temperature may be normal and 100 to 103 in the evening.

Slight or moderate leucocytosis is present with a moderate relative increase of polynuclear cells. There is usually a moderate grade of anemia.

Digestive disturbances more or less marked are a regular accompaniment; the patient has no appetite, his tongue is coated with a grayish fur; it is not the dry, brown and

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coated tongue of typhoid, nor is the tongue swollen and indented as in chronic malarial poisoning.

Nausea and vomiting are not common symptoms.

Some cases have no chills at all but a majority of them have decided rigors, after which the temperature rises to 103 or higher.

The temperature may then remain normal for several days and then another chill, fever and sweat occurs which causes it to be mistaken for intermittent fever, especially in malarial regions. Practically an intermittent fever which resists quinine is not malarial and the plasmodium is absent from the blood.

In fully 33% of the cases the course of liver abscess is entirely latent, the symptoms are hidden by those of dysentery, or of pyemia, if such is present, until the abscess suddenly ruptures into some other organ or cavity.

Probably the most important disease from which it is to be distinguished is the intermittent hepatic fever associated with gall stones. This may occur without suppuration in the ducts, but postmortem shows that the majority is due to suppuration.

The distinctive features of this condition are paroxysms of fever with rigors and sweats, which may recur with great regularity, but which more often are separated by long intervals, the deepening of the jaundice after the paroxysm, the entire apyrexia in the intervals, and the maintenance of the general nutrition.

The time element is also important as in some cases the disease has lasted for several years.

In carcinoma, chills, fever and sweats do not occur, but there is a distinct cachexia, perhaps with nodules in other situations.

The spleen is not enlarged in amebic abscess, and in cases where the abscess is central and is attended by marked general enlargement of the liver this abscess of a splenic tumor may serve to distinguish it from malarial fevers, possibly from typhoid, and from the various forms of anemia accompanied by enlargement of the spleen.

When the abscess has reached a considerable size and occupies or originates in the posterior portion of the right lobe, bulging of the wall of the thorax may be quite evident. The shape of the thorax will be bell-shaped, and this may serve to distinguish the condition from a purulent pleuritic effusion. If the abscess attains a large size and has become adherent to the diaphragm the patient will suffer from dyspnea.

In temperate climates, abscess of the liver is invariably secondary, and the primary

source must be sought for, either in dysentery, slight ulceration of the rectum, suppurating hemorrhoids, ulcer of the stomach, or in suppurative diseases in other parts of the body within the skull or the bones.

The enlargement of the liver is most marked in the right lobe and the abscess cavity is usually situated more toward the lower than the under surface, the increase in size is upward and to the right, not downward as in cancer and other affections producing enlargement. Percussion in the mid-sternal and para-sternal lines may show a normal limit. At the nipple line the curve of dullness begins to rise and may reach the fifth rib in the mid-axillary line, while behind, near the spine, it may be almost on a level with the angle of the scapula.

Palpitation is painful and there may be fremitus. If the abscess is large and near the surface, we may detect fluctuation.

When the abscess bursts into the pleura an empyema is produced and perforation of the lung usually follows. When the abscess has been latent and dysenteric symptoms not marked, the condition may be considered empyema or abscess of the lung. In these cases the anchovy-sauce-like color and the presence of the ameba will enable one to make a definite diagnosis.

In advanced cases where the abscess has reached the surface of the organ there will be often sharp and stabbing pains due to peritoneal involvement. These pains may be referred to the under surface of the liver in front or to a point beneath the lower rib behind. Such pain when present is a diagnostic sign of great value. If a point of great tenderness corresponds with the seat of pain the value of the sign is increased as it indicates the point where the abscess lies nearest the surface.

An aseptic abdominal incision is the safest diagnostic measure although the use of the aspirating needle is permissible if the pus is in the pleura, or between the diaphragm and liver; but due antiseptic precautions are necessary and it should only be done at a hospital where it is possible to immediately operate.

No treatment is worthy of consideration except complete evacuation and drainage by means of incision at the earliest possible moment.

While many cases have been reported by Cantile in which aspiration and syphonage have resulted in cure, such means must be looked upon as uncertain and unsurgical, and should be attempted only by those who are unskilled in surgery or in bad surroundings when the condition of the patient ren-

ders it impossible to transport him to a well equipped hospital.

It is surprising how many exploratory aspirations have been made without disclosing a large abscess and how many times when pus is shown by aspiration and the needle removed, and at operation in a few hours it is impossible to find the abscess.

Three routes are possible for affecting entrance into the abscess cavity:

(1.) Abdominal incision. An incision is made into the peritoneal cavity at a situation protected by adhesion, if possible, until the liver is exposed at the point of election. After proper gauze protection of the abdomen the abscess is located with a needle or grooved director and a small incision is made into it with a knife. After evacuation of pus and removal of loose necrotic tissue, the cavity is drained with tube and gauze. The gauze protection can then be removed and a smaller amount introduced as there will not be any considerable escape of septic material in the few hours necessary for adhesion to form. After care is very simple.

(2.) Transpleural operation. In passing through the pleura it is necessary to resect one or more ribs. The opening into the pleura must be carefully made and parietal pleura secured.

The diaphragmatic pleura is next incised and the cut margins of both pleura are stitched together so that the pleural cavity is closed leaving the passage through to the diaphragm. The diaphragm is next incised and abscess searched for and drained as in the first instance.

(3.) Combined Abdominal and Transpleural Operation: Through a straight incision the abdominal cavity is opened; the incision carried upward and sections of ribs removed; the diaphragm is incised and an attempt made to push the pleura up by gauze packing. If this cannot be accomplished, the pleural layers are sutured too the margins of the diaphragmatic incision, and, after inserting gauze protection, abscess is opened, evacuated and drained. The abdomen is partly closed by careful suture of the unnecessary portion toward the lower angle. The entrance of air into the pleura in these operations seldom gives rise to serious trouble, but The mortality, which was once 80% has been reduced by early and proper interference to between 20 and 30% and is constantly decreasing. It is interesting to note that when large areas of liver are destroyed by acute infection, the remainder will hypertrophy until the original weight is nearly restored.

DISCUSSION.

Daniel N. Eisendrath, Chicago, was asked to open the discussion of this symposium. Dr. Eisendrath said:

"On being invited to come here as one of your guests, I thought it might be desirable in discussing the general subject of gall stones and their diagnosis and treatment, to show you a few specimens from some cases I have operated on in the last year or two, and fortunately, or, rather, unfortunately for myself, I have been asked to take the place of Dr. Guthrie, in giving a little more formal talk on the subject of diagnosis and differential diagnosis of gall stones.

Fortunately, these specimens illustrate in a most typical manner some of the points that were brought out by the paper of Dr. Abell, and by looking at these specimens one point will be impressed on you particularly that he brought out, and that is the uselessness of trying to treat cases either of acute or chronic gall stone disease by any other means than surgical treatment after medical treatment has been tried a reasonable period of time.

The first specimen with the accompanying photograph illustrates the type of chronic cholecystitis in which there is scarcely any of the mucous membrane or of any other coat of the gall bladder left except simply a mass of cicatricial tissue, or what he described as a fibrosis of the coat. This shows the uselessness from a surgical standpoint of leaving such a gall bladder in place, and the great benefit which such patients derive from a complete extirpation of the gall bladder.

This is a drawing which was made from the specimen on the left side. It shows a large calculus impacted in the neck of the gall bladder, absolutely preventing all drainage of the gall bladder, causing a stagnation of its secretions and changes in its coats, very similar to an appendicitis obliteration, so that we have obliteration or fibrosis of the walls of the gall bladder, and a condition which, unless relieved, will give rise to constant recurrence of all the gall bladder symptoms.

The other illustrates another point, namely, stenosis due to angularity at the neck of the gall bladder, because frequently, as has been shown by the later investigations in the pathology of the gall bladder, when the secretions of the gall bladder cannot escape, either as the result of stricture or angularity, or dragging on the gall bladder from some cause, presumably the kidney, the gall bladder secretion stagnates, and there is a tendency to the formation of cholesterol stones. It has been found in the pathology of gall bladder disease that the primary stone which was formed is usually a cholesterol stone, and then on top of that comes layer after layer of pigment and cholesterol alternately. That is shown very nicely in a case I operated on a week ago for acute cholecystitis. In this case

there was the formation of an abscess between the abdominal wall and gall bladder, and I snatched this specimen which I show you for preservation. It shows how the neck of the bladder is blocked up by a large stone, and back of it have formed a number of stones which are all faceted. If you notice a little closely you will see first the stone, the one that blocks up the neck of the gall bladder, is formed of the smaller cholesterol stones, and the other portions of it show gangrene in a rough sort of diagrammatic way.

The other specimen which I have asked to be passed around shows the pathological changes in the gall bladder, also taken from operative cases, both of them specimens of gangrenous cholecystitis without perforation. In order to adhere to the subject which I have been asked to speak about, I hope you will pardon me for the incomplete way in which I take it up.

If we take up the subject of the diagnosis of gall stones first, before considering the differential diagnosis, there are three or four symptoms which stand out prominently in the clinical picture. These are plain, icterus, fever, and, at times, tumor formation. Now, in taking these up briefly, let us consider the subject of pain and the manner in which it comes on. There are usually two ways in which pain begins in gall stone diseases. Sometimes the pain is very sudden, as in the case of gangrenous cholecystitis, the stones of which we pass around; the patient never knew he had any trouble, he was absolutely unconscious of pain, but was suddenly taken with a severe colic, the nature of which is familiar to you, radiating in seventy per cent of the cases to the right shoulder, and in ten per cent of the cases to the left shoulder, and in twenty per cent to the middle of the back. The patient never had any distress of any kind before. There are other cases of that kind in which the patient has sudden gastric disturbance with pain. There is a third class in which we have a dull aching pain by which the patient is first attacked without previous symptoms. We have a fourth variety in which the patient suddenly becomes icteric without any pain at all, in which the stone becomes suddenly blocked in the common duct, and without any colicky pain, simply giving rise to deep icterus. Then we have another variety in which the pain comes on in one of three different forms. These cases are much more difficult to differentiate. There are cases in which the patient has a slight pain after eating, a discomfort, and these are the instances in which it is necessary to make a differentiation, and when in some cases is almost impossible without operation to differentiate from gastric ulcer or adhesions around the pylorus and duodenum.

Is regards icterus, it was formerly believed—and it was a fallacious belief—that every case of gall stones must have icterus. Dr. Abell gave the statistics of various writers on the subject, and

among them he mentioned Dr. Murphy, but I think if we take our own experience and the experiences of such men as Kehr, who has had probably nineteen hundred cases of gall stones, and has studied them carefully, we will find that icterus is present in about fifty per cent of the cases, where the gall stones are situated in the common, the cystic duct, the gall bladder, and hepatic duct. In the majority of cases, where the gall stones are in the gall bladder, there is very slight, if any, icterus. The majority of cases which show icterus are those in which the stones are in the common duct. We are apt to think that if a patient does not have jaundice, he does not have stones in the common duct. It has been found in fifteen per cent of the cases of common duct stones that we do not have jaundice, so that if you have a patient who has symptoms of pain or of gastric distress, who has jaundice, you are safe in assuming, in all probability, that the stones are not located in the gall bladder, but in the common duct. The jaundice which accompanies stones in the gall bladder is usually slight. You can make it out by the color of the sclera and by the color of the hard palate. The cases of common duct stones show all varieties of jaundice. In the first place, in those cases in which the stones become impacted in the common duct, we have a sudden onset of pain. In others there is very little or no pain, but there is intense jaundice. That jaundice in common duct cases is usually transitory, and it is not advisable to operate on these cases with acute common duct closure unless jaundice is present. If you tide them over by medical means in a week or so it will disappear. In common duct stones we have intermittent jaundice present, and in referring to this, Fenger spoke of a ball-valve action, as where a jet of water forces the ball away from the bottom of the basin when the pressure from above is considerable, thus increasing the force of the cystic duct in some way and causing jaundice. When infection lets up, the stone floats back where it does not cause obstruction. When you have a case of jaundice which is deep and persistent, month in and month out, there are practically three things that cause it and these have to be considered. In the first place, the stones may be impacted in the ampulla of Vater, and this may cause complete obstruction. Secondly, carcinoma of the head of the pancreas is one of the most frequent causes, no matter how young the patient. I saw a case last summer in a young man, twenty-nine years of age, who had typical carcinoma of the head of the pancreas with intense jaundice. Third, chronic interstitial pancreatitis.

About a year ago a woman gave a history of slight pains in the stomach region, with deep jaundice, and when I operated I expected to find a common duct stone. Much to my surprise, the common duct was empty, but instead of that

we found this condition to which attention has been called, namely, common duct in passing through the pancreas, as it oftentimes does, contracted in such a way that it became strictured close to its union with the pancreatic duct, and back of that was dilated. That caused the jaundice.

As regards the other symptom, fever, Dr. Abell and the other gentlemen brought out the point that fever in abscess of the liver must be differentiated from intermittent hepatic fever of Charcot. I have seen more than one case in stones in the common duct complicated by intermittent fever, which were treated for weeks as malaria. There are two points to bear in mind in connection with the making of the diagnosis between intermittent fever and a stone in the common duct and malaria. First, the examination of the blood. In the second place, the patient will show more or less jaundice as a rule. The patient will have fever, he will have chills, and sweats. In the case of malaria with a more or less periodical curve, but they are irregular. They will come on every six or four days. As regards the examination of the blood, leucocytosis is present in all acute inflammatory conditions of the gallbladder. I have seen them only too often. With acute empyema of the gall bladder the temperature will be 103° - 104° in the evening and we may think we will have to operate. Tenderness is extreme; rigidity is marked over the gall bladder, but that temperature will disappear the next morning as in appendicitis sometimes.

As regards the differential diagnosis, I will not have time to go into it in detail, but will simply mention the headsigns and give you time to think of them. In quite an extensive experience, however, in this class of cases there are several things that have impressed themselves upon my mind in the diagnosis of gall stone disease, and among them are these: We are told that the gall bladder must lie under the right costal arch, and the appendix must lie at McBurney's point. This is not so in all cases. There are women with lax abdomens with enteroptoses, and without enteroptoses, especially young girls. I have seen that within the last year or two frequently, young girls with thin, narrow waists, and enteroptotic women whose livers came down to the level of the umbilicus, and in whom there was inflammation of the gall bladder. I saw one case recently in which the gall bladder was shaped like this (indicating), and which had an inflammatory exudate around it. One of these cases of gangrenous cholecystitis I operated on by mistake, thinking it was a case of appendicitis with abscess formation. Here is another point, and that is the position in which the appendix, instead of being in the right iliac region, on account of the fact that the cecum has never rotated properly, stays up in the right hypochondrium.

J. Garland Sherrill, Louisville: The study of

lesions of the gall tract is always interesting. The medical profession has been a little slow in taking up this subject, and it was only until the pathology was worked out on the living subject that we really grasped the idea as it is known at the present time. Formerly the teaching was, as has been mentioned, that we must have icterus, clay-colored stools and sharp attacks of pain in order to make a diagnosis. A very large number of cases will show an entirely different train of symptoms. Fulness in the epigastrium, slight bulging after eating, and a dull, heavy feeling under the edge of the ribs will be the only symptoms the patient presents. In these cases a careful examination will reveal tenderness over the gall bladder and rigidity, and on making diagnosis of this condition I depend more on tenderness over the gall bladder, with radiating pain upon pressure under the ribs, especially to the right or left shoulder, for making a diagnosis than any other symptom. In the great majority of cases, where there is active infection present, you will make a diagnosis of gall bladder disease by the tenderness upon pressure. The pain may be simply a dull ache or a sharp, acute pain, and it will depend upon obstruction of the cystic duct due to the swelling of the mucosa. Second, it may be due to the invasion of the peritoneal surface of the gall bladder, and, third, efforts to expell the stone. It was formerly believed that all pains around the gall bladder were caused by the efforts to expel the stone. But that is not true now. Jaundice, in my experience, is not present in one-third of the cases, and clay-colored stools are not present unless there is obstruction of the gall duct, either from swelling of the mucous membrane or from the presence of stones. Fever is often present after an acute attack of pain.

The urine has not been mentioned this afternoon in this symposium as a factor in the recognition of icterus. I think we can determine the presence of icterus more readily by examining the urine than by the conjunctives. With involvement of the kidney in chronic infections of the gall bladder, we nearly always have albuminuria with hyaline casts present, if the patient has jaundice, and especially if the patient is absorbing toxins from the infected gall bladder. Rather than contraindicate operation, this evidence in the urine if kidney lesions should urge us into operating upon these patients. I have seen a number of cases clear up after drainage of the gall bladder.

In regard to the treatment of conditions of the gall bladder, that would depend upon the condition met with at the time of the operation. The ideal treatment would be to open the gall bladder and remove the stones, and close, but in practice it does not work, for the reason that the cause of the stones remains, that is, the infection, and drainage proves much better than closing the gall bladder. Again, the removal of the gall

bladder is not desired when possible to preserve its function, as the bladder should be put to some use again. In cases where you have ulceration of the gall bladder, or where stones have been impacted in the cystic duct and cause excoriation of the mucosa, you will have obstruction, and therefore you had better remove the gall bladder.

John R. Wathen, Louisville: This has been one of the most important subjects, I think, which we have had on the program before this Association. There has been such a discussion of papers that there is very little left for me to add. I may say that diseases of the bile passages, or the right upper quadrant of the abdomen, have attracted an immense amount of attention. Furthermore, these diseases were formerly in the hands of the general practitioner or internist, and the surgeon rarely ever, except in some rare conditions, invaded this domain. In recent years the pendulum seems to have swung in the opposite direction, and these diseases have been taken out of the hands of internists and are to-day considered surgical. These papers teach us that the general practitioner should be specially careful in the diagnosis of digestive disturbances. As practitioners, we should not content ourselves with simply a few palliative drugs and diet for temporary relief, but we should look to the real cause of the trouble. Now, it matters but little when the trouble is in the upper right quadrant of the abdomen as to whether the stone is in the common duct, whether the stone is in the gall bladder, or whether we have to deal with a duodenal ulcer or gastric ulcer, the patient comes to us for relief and the only positive diagnosis that any one could make with certainty is by directly studying the living pathology on these patients at operation. Many of the men with large experience have fully realized this to be the case.

In regard to the complete removal of the gall bladder, which seems so popular to-day, I beg to take issue with those who take that position, and I will admit that in certain well-indicated cases, as has been brought out by Dr. Abell and others, where the gall bladder is completely destroyed or is of no real use, it is possibly best to remove it, but if there is the slightest chance of saving the gall bladder we should do conservative surgery, and for the reason that we know to-day from our modern study of the pathology of the pancreas that chronic pancreatitis is cured alone by drainage.

I. S. Stone, Washington, D. C.:—The cystic duct has been represented in the illustration as being several inches in length, but I suppose that the main purpose of the author of this paper was to call attention to a few little departures from the normal anatomy and position of these organs and incidentally it may explain some of the rather difficult cases. As I understand, the cystic duct,

when found in a surgical case, is usually about half an inch in length. In some cases it may be an inch or two longer.

In regard to the conditions described in these papers, I will only have time to say a few words about them. One is with reference to the anatomical position of the gall bladder. Nearly every writer assumes that the majority of instances will explain all that is necessary to know, but it has been reserved for those who open the abdomen a great many times to discover that the gall bladder in a very large percentage of cases cannot be palpated. In the first place, it is in many instances most difficult to palpate it when there is a stone in the common duct. You are all familiar with "Courvoisier's Law." It shows the relation of atrophied or contracted gall bladder to the presence of stone in the common duct. On the contrary, and in addition to that, we often find that the liver substance is entirely covered, for in my limited experience I have seen several cases where the gall bladder was covered over by the lower border of the liver itself. It may contain calculi or not. Mayo Robson has said that by pressure under the ribs with the left thumb, with the abdomen thoroughly relaxed, you can find tenderness if stones are in the gall bladder. With due respect to his eminence as a surgeon, I find it is impossible in the vast majority of cases to elicit any tenderness when the stones are not giving trouble. It has been pointed out by the Mayos repeatedly that stones give trouble when they make their exit rather than when they remain quiet. As a working law that is true, but in the case where we have a beautiful specimen such as that shown by Dr. Abell (where there was a large stone impacted in the gall bladder), there is a retention cyst. The ulcerative change in the mucous surfaces of the gall bladder or duct will cause it to be practically a retention cyst. That is an experience with which many of us are familiar in gall bladder with the stone in position, and there are some rare instances where a stone has passed out leaving such a retention cyst, and the cystic duct is no longer patent. There is one other rather peculiar fact, and that is, there is occasionally absence of the gall bladder. I reported a case a few years ago in which there was entire absence of the gall bladder. Careful investigation in this case revealed stones in the hepatic duct, this duct doing the vicarious work necessary in the absence of the gall bladder. The hepatic duct, which was as large as my little finger, was absolutely packed with gall stones.

Irvin Abell (Closing the discussion): While the cystic duct is much longer in this illustration than it is normally, it is because of my making. This specimen was removed post-mortem. The entire tract was removed, and injected by Kaiserling process.

THE ETIOLOGY, DIAGNOSIS AND
TREATMENT OF PELLAGRA.

By W. F. STIRMAN, OWENSBORO.

There is no disease characterized by organic lesions the pathologic anatomy of which is less understood than that of pellagra.

The extreme chronicity of the malady accounts for much of this lack of knowledge.

It is exceedingly rare for pellagrous patients to die in the earlier stages of the disease, and when they do thus die, the death usually is occasioned by some intercurrent trouble, when the morbid anatomy, and histology of the two diseases are more or less, almost necessarily, confounded.

The grosser changes of the internal organs are inconstant and conflicting, and are relatively of little importance.

In the central nervous system, microscopically changed, will the true seat of this affection, in my opinion, be found.

There are three chief theories given as the cause of pellagra. First, the maize or zeist theory, holding the decomposition of the oils of corn, or zein, responsible for its production. Second, the theory which claims the growth of certain fungi on maize produces a toxin, and that the eating of this toxin containing corn, produces pellagra. Third, the microbic or bacterial theory, which supposes pellagra is due to a specific bacterium which grows in maize and elaborates characteristic toxins.

The etiologic definition of pellagra is dependent on which theory is held.

DeJarnet, of Virginia, defines it as an endemic skin and spinal disease, caused by eating damaged corn, but dependent also on bad hygienic conditions and exposure to the sun.

Gaumer, of Yucatan: Pellagra is a non-contagious tropho-neurosquamous erythema due to a specific cause.

Rohrer, of Baltimore: Pellagra is a specific infectious disease due to a parasitic fungus, namely, the *aspergillus fumigatus*.

Lambroso adhered to the zeist theory, and with him go practically the whole fraternity of Southern Europe.

Taylor, of South Carolina, holds the protozoan theory, while Lavender, of the Marine Hospital Service, concludes from his observations, that nothing resembling the protozoan parasite has been reported as observed in the blood of pellagra.

It is rather generally conceded that damaged maize bears a close causative relation to pellagra, but as to whether the toxic principles are developed in the maize itself, or whether the maize is pathogenic, only in so

far as poisons can develop in it, by the action of micro-organisms, is still a matter of conjecture and speculation.

The belief that there is some relation between pellagra and the use of corn as a food is too universal and profound to permit of rejection, except in the event of demonstrative proof to the contrary. The exact nature of this relation awaits final solution.

Prior to 1884 only isolated cases of pellagra existed in Yucatan. In that year large quantities of corn were imported.

It came in the bottom of ships, and during the voyage this corn often got damp and even wet, developing a peculiar fungus, the *sporisorium maidis*.

The constant eating of this affected corn vitiated the blood, leading to the slow development of pellagra.

The disease seldom made its appearance among the better classes, as those could obtain the home grown or good, sound corn.

This importation continued for about ten years, and the spread of pellagra grew apace, but it was confined to the lower and middle classes.

From 1901 to 1907 corn was again needed and large importations had to be made, coming under similar conditions as mentioned above.

Pellagra again became epidemic, and spread among the rich and poor alike, until not less than eight per cent of the whole adult population had pellagra in 1909.

During this period the wealthy land-owners found it more profitable to raise hemp, and import corn for home consumption, thus compelling all the people to consume the imported corn.

This is an isolated instance, to be sure, but an illustrative one wherein about one-tenth of a whole people were affected with pellagra, apparently traceable directly to the consumption of damaged maize.

Sandwith believes the non-acceptance of the corn theory, evidently of a lack of thoroughness on the part of the investigator.

He admits there are many districts where maize has been cultivated for years, and yet pellagra has not appeared, but denies its existence in any district where corn is neither cultivated nor habitually eaten.

He believes only damaged corn can produce pellagra, and that the better classes in a pellagrous district usually escape, consequent on their living on a mixed diet and not being confined to corn products as a staple.

The maize area of the world is admittedly greater than the pellagra area, but the real point is, does not the pellagra area correspond more or less, nearly with the areas upon which human beings live who eat damaged corn, or the products made from damaged corn.

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

Lavinder, while not accepting corn as the proven cause of pellagra, admits the apparent causative relationship.

Taylor, of Columbia, South Carolina, leans to the protozoan theory, and traces an analogy between this affection and tuberculosis and syphilis.

Dr. Geo. A. Zeller, superintendent of the Peoria State Hospital, in answering an inquiry of mine, writes, September 20, 1910, "The subject of pellagra is receiving much attention in Illinois, through a Commission appointed by the Governor.

"Captain Siler and Captain Nichols, of the Medical Department, U. S. A., have spent the summer here studying the intestinal side of the problem. We conducted a corn feeding experiment for one year, in which we fed an excessive amount of corn. There were no developments, and an exactly similar number of patients, fed on corn free diet, had exactly the same number of cases.

"The investigators have practically abandoned the corn theory and we must seek elsewhere for a cause, in which the subject of dementia must be considered. We have had about 100 cases this season, but the mortality has been less than last year."

From these conflicting opinions the inference must be that the exact cause of pellagra is at present unknown, but with the weight of authority as yet adhering to the corn theories in one way or another.

There is no evidence of its being contagious or communicable, or in any way transmissible from one individual to another.

Pellagrous patients do not transmit pellagra to their children except as the children, on account of a lowered vitality, inherit from them a general inability to resist disease, as in tuberculosis, but not as in congenital syphilis.

Poverty, want, lack of cleanliness, unhygienic surroundings, all tend to the development of disease, and the one under consideration is no exception to the established law of invasion.

The symptoms of pellagra are too numerous to even try to mention and I shall confine myself to only a few of the most prominent.

They may, however, be grouped under the characteristic triad of gastro-intestinal, erythematous and nervous.

So insidious in its onset is pellagra that it is difficult to state what are the earliest premonitory symptoms.

Probably some gastro-intestinal disorder is usually the first thing complained of; this may be loss of appetite, burning sensation in the epigastrium, excessive desire for food and drink, or more often, diarrhoea, with stomatitis and salivation.

Coincident with the manifestation of these intestinal disorders the patient detects a dis-

inclination to any exertion, and becomes irritable and restless, neglects his duties and personal appearance, all of which is evidence of the psychic depression which is later so prominent a feature in the clinical picture of the disease.

After a persistence of these conditions, with increasing severity for weeks or months, the characteristic symptom of pellagra almost invariably appears, namely, erythema on the hands and arms not covered with clothing.

While the eruption, appearing usually in the early spring, is the most characteristic objective symptom of the disease, it is relatively of little importance, as few patients suffer physical discomfort from it other than a burning sensation with complaint of unsightliness.

The eruption commences as an erythema suggestive of sunburn, on the backs of the hands and extensor surfaces of the forearms, extending up the arms to the point reached by the sleeves, ending there abruptly, and are symmetrical, if the sleeves themselves are symmetrical.

This eruption after a time scales off, leaving the surfaces soft and glistening, but reappears and goes through the same course, possibly several times during the summer.

The skin of the affected parts becomes thickened, hard, wrinkled and inelastic as a result of these repeated inflammations, with occasional deep fissures of the fingers.

Portions of the body subject to pressure from the clothing as well as the skin over the olecranon, trochanter, sacrum and knees are liable to be affected. The legs and arms if exposed do not escape.

The erythema disappears in the late summer or fall to make its appearance next spring. At times there is a relapse in October or November.

The symmetry and color are characteristic.

A severe eruption is indicative of a severe infection, and the reverse is equally true.

The whole mucous membrane of the mouth and pharynx becomes a cardinal red. The tongue, denuded of its epithelium, is smooth and glistening. Flakes of epithelium, exfoliated, can be seen adhering to the gums.

Stomatitis with salivation is present.

Pyrosis may be quite prominent, accompanied by a general burning sensation of the oesophagus, as well as the stomach. Vomiting with later dysphagia may supervene.

Diarrhoea is a feature at some time in the course of pellagra. It may be most severe, with twenty or more stools a day.

Treatment has but little effect towards its control, nor is it wise to attempt to restrict the quantity of food taken, as this, too, seems to have no effect on either the numbers or char-

acter of the discharges, dependent probably on the diarrhoea being a neurophathic manifestation due to disease of the spinal cord, and the sympathetic system.

All reflexes are usually exaggerated, but this fact is of little value, as they may remain normal, or may even be below the normal.

The pulse, temperature and urine indications are variable, and not dependable. Likewise nothing pathognomonic is learned from the blood, although a moderately constant secondary anemia is present with decreased haemoglobin paleness of red blood corpuscles, no true leucocytosis, and an increase of the large mononuclear cells.

Mental depression is as constant as either the erythema or diarrhoea, and varies from a mild influence to severe melancholia.

In many ways these unfortunates indicate lack of mental force. They are easily provoked to anger, seem to have forgotten how to smile and are most suspicious.

As the disease advances they talk less and less, and finally may pass into a state of absolute mutism or insanity.

As yet statistics are not sufficient to determine the degree of insanity in our patients. In Italy it is not less than ten per cent.

This portion of the pellagrous syndrome is very important, but the insanity itself properly calls for separate consideration.

With our present limited knowledge of pellagra, I do not believe we are warranted in making a positive diagnosis of the existence of the disease in any given case before the appearance of the characteristic erythema.

As long as the etiology of pellagra is unknown the treatment must be largely symptomatic and at present we cannot formulate a scientific or rational therapy. Any remedial measures suggested or employed must be based on empiricism and experimentation.

It is essentially a disease calling for preventive measures, and upon proper prophylaxis depends its suppression.

Knowing nothing beyond the etiological relation existing between pellagra and Indian corn, our prophylaxis must almost begin and end with that cereal.

(I purposely disregard that part of the French School, which denies the existence of pellagra as a morbid entity.)

In short, the whole people should be taught the danger menacing them in the eating of damaged maize, and possibly such leguminous foods as peas and beans and buckwheat that may have been exposed to dampness.

In transit it is subjected to dampness, is often stored in warehouses that are ill ventilated, damp and unclean, and this corn is ground for food.

Illustration after illustration could be given

as to how corn is damaged and then converted into food products, but it is not so easy to point a way by which, if followed, only good, perfectly cured corn would be made into human food.

Laws could be enacted insuring a fuller execution of our pure food and drug law, and at the same time secure the inclusion of all our corn products among those foodstuffs receiving careful Governmental inspection and supervision.

Mr. Cutting, late American Vice Consul at Milan, reports, "The cause of pellagra, while scientifically uncertain, is practically, and for Italy, ascertained."

Believing spoiled corn to be this cause, all prophylactic measures are directed against its use as an article of food. These measures comprise, "besides a census of the disease and a report of all cases, the testing of corn and meal brought in at the frontiers or offered for sale or brought to the mills, and the prohibition of its sale for food if spoiled; the exchange of good corn for bad corn; desiccating plants; cheap co-operative kitchens; the improvement of agriculture, and the education of the people."

By such means Italy has reduced the total number of pellagrins within her borders from 104,067 in 1881, to 55,029 in 1905, and the deaths from 3,987 in 1898, to 376 in 1907.

The administration of drugs, such as arsenic, quinine, strychnine and many others, has been disappointing and of little effect, but undoubtedly rest, cure, cleanliness and good food do good.

Surroundings should be as hygienic as obtainable, excessive alcohol, undue exertion and a damaged corn (probably all corn) diet interdicted.

Removal to a cold climate, according to Bass, of New Orleans, offers hope for betterment.

Syphilis, tuberculosis, hook-worm, amebiasis and any other intercurrent troubles must be treated and eliminated, if curable.

Cole and Winthrop, of Mobile, have used transfusion with some success and believe good may result from serum therapy, stating an artificial immunity can be produced in animals and that it really exists in cured pellagrins.

So little is definitely and exactly known as to the cause and treatment of pellagra that the whole matter must be held for the present undetermined, but I have hope the problem, so long unsolved, will be mastered in the United States.

Our own state, it appears, is not to escape this potentially really great scourge, and until we know better how to combat it, I believe it would be well for the society to instruct our committee on legislation to request the State

Legislature to pass and rigidly enforce such laws relative to the method of cultivating, harvesting, maturing, preserving and milling Indian corn as may be necessary and practical.

In preparing this paper, I have quoted freely from articles read at different pellagrous conferences both as to facts and text.

STATE CARE OF THE INSANE.*

By CURRAN POPE, LOUISVILLE.

It was with hesitation that I accepted the request of your committee to write under the caption to which I had been assigned. My hesitation was due to no lack of desire, nor to the fact of my being unacquainted with the subject, but rather to the fact that *I felt the great possibilities of being thoroughly and completely misunderstood*. If it had been left to my choice, I should not to-day have addressed you upon this subject, as my taste and inclinations would have led me to speak upon a different one, particularly in view of the fact that I do not actively, in my professional or sanatorial work, treat cases of insanity, but your committee seemed so impressed with what they termed in their kindness, my special fitness and qualification for bringing the matter before you, that I yielded to their importunities and speak upon this subject, which should be really, close to every one of our hearts. It is a live and burning issue, is this state care of the insane, an issue that must be writ in bronze and mortar, and money that must be achieved by all the best efforts that are in us, or otherwise fall to the ground. If, in this brief paper, I can secure your attention to the subject and direct your energies in the channel of the relief needed, I shall feel that the thought and labor I have expended in its preparation have not been misspent, and should it initiate sufficient activity to arouse a movement for the relief and improvement of the speechless people for whom I speak, I shall certainly feel that I have not lived in vain.

To undertake to arraign a "system" entrenched behind years of custom and practice, when that system is an accepted part of my own state's institutions, can only be done when one feels true and deep state pride and accepts as his part, without murmur, a somewhat onerous duty. Let us at once disclaim any desire to stir up animosity; rather look upon what is to follow as a brief, a plea for "the other fellow," and endeavor to secure for the unfortunates here considered all that may be embraced under the term, a "full and square deal."

I do not believe that the profession at large is well acquainted with conditions as they exist in the "custodial system" at present in vogue in this state, and I hope I can add a little to their information. To point out the facts of the present system is a comparatively easy task, and I ask your kind indulgence and *implore* your close attention to my next few remarks. In all that I have to say, let nothing be construed as casting the slightest reflection upon those who are at present in charge of our various hospitals for the insane. They, as well as the patients, are the victims of a system that has long outgrown its usefulness, that is archaic in form and totally unfit to the uses of the modern psychiatrist. That these men have done and are doing their duty nobly and well and to the best of their ability is known to us all, and if quarrel I have, and thrice armed feels he who hath his quarrel just, I quarrel not with them, but with the "system," and I must be understood and so comprehended by hearer and reader alike.

Probably Kentucky is no worse than a number of states in the Union, but this is a poor excuse for the high-minded and loyal citizens that compose her commonwealth. Rightly approached, there are few, if any, who know, who will not agree with the statement that if any form of disease requires careful and thorough modern treatment, it is the unfortunate who is deprived of his constitutional liberty and placed under state control through the misfortune of a diseased mentality. Speaking the plain truth, without fear or favor, and acknowledging with humiliation the existing blot upon the fair name of Kentucky, I state without fear of contradiction that as far as *modern* treatment of the mentally afflicted is concerned, it is merely an empty name, a parade of brass and tinsel for the present methods in vogue are nothing more or less than those of perfunctory medical custodian. As far as real investigation into the mental condition of those who enter state hospitals for the insane is concerned, it is either never made or is at best a supervision and never scientific. Custodial care of mentally afflicted patients can only be described as a pitiable substitute of modern psychiatric treatment. The time has come when the importance of treating the insane should receive the same intelligent consideration and care as is now given to the treatment of tuberculosis; as great care and thought should be bestowed upon its prevention; as much thought, intelligence and time should be devoted to its diagnosis and the treatment of these unfortunates should be assigned to those who are by natural aptitude, long study and scientific

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

qualifications best suited to handle their cases.

Can you conceive any more pitiable state of affairs than the "*inquereudo ac lunatico*" of a great city? A criminal court; an over-worked judge and prosecuting attorney; an indifferent jury; the absence of the "accused;" (?) the perfunctory hearing of the evidence and finding of the jury, often without leaving their seats; the wretched and heart stricken family, subjected to the gaze of the gaping curious public; the harrowing details given by friends, relatives and doctors; the publicity of the press, and finally the removal of the "*accusca*" by a "*deputy sheriff*" to the "*asylum*," to which he has been committed. Is there anything that can wrench or twist the heart-strings more than this *publicity of affliction*? God alone knows what the family has suffered with such a case; He alone knows the suffering of a public trial; and it is His support that oftentimes carries the unfortunate family through this trying ordeal. Is the judge a learned alienist? Does he and the prosecutor know the vagaries and intricacies of the mental processes in health and disease? Does the jury have the faintest conception of what constitutes abnormal mind? Has the average doctor anything more than a smattering along this line? Does the medical profession, outside of the limited number of men who have given it especial study, know and comprehend even the elements of normal psychology and brain action? Do some of them even know the anatomy and physiology of the brain and nervous system? Do they know even the names of the ordinarily frequent mental diseases? And yet, these men and their opinions are accepted as competent in every court in our state without question. In a case where such important elements are involved as the question of a human's reason and deprivation of constitutional liberty, it should not be permitted.

Court officials are as little satisfied with the present status of affairs as the advanced specialist in these diseases. It is their sworn duty to administer the laws as they find them and this they have to do as best they can, amid a multitude of pressing duties of such a nature as to almost preclude the attention that such cases demand. It is to them oftentimes a sad, an un congenial duty. Often has the plea been made that the subject was difficult and intricate. This is no excuse. The time has come for a change and the profession must awaken to the fact that none of its members should go upon the witness stand upon such a grave errand without feeling his thorough competency to pass upon the question in hand. This has been too frequent in the past; I say it to your shame. The wave of public sentiment that has lifted tubercu-

osis to its present position should be duplicated with the mentally afflicted and we should no longer hear of an unfortunate being classed as the "accused" needing *prosecution* on one hand and *defense* on the other, both of which, in truth, are purely nominal and largely automatic. Our legislatures must awaken to the dangers of such a system and be prepared to accept all that modern psychological work has done in its practical application to the mentally sick. Oh, you right reverends! Oh, ye wrong reverends! may be paraphrased with the legislatures, and it is to be hoped that we may yet correct this defect and not have to mourn, as did Dickens in "Tom All Alone."

We should have no "asylums" for the insane; we need modern hospitals. The primary essential and important aim of all hospitals should be the cure of the persons entrusted to their care. The aim should be, not to herd mentally unsound people in corridors flanked by rooms, to give them three meals a day, a few medicines, and control by attendants, but to use every manner of means known to medical science to CURE them. The state that does not recognize this as its guiding star in the treatment of its mentally unsound has a deep blot upon its escutcheon, a stain as deep and as difficult to remove as that upon the delicate hand of Lady Macbeth; "All the sweets of Arabia cannot wash away this stain" on the one hand, nor can beautiful grounds, commodious buildings, three meals a day and custodial care remove the blot on the other.

The bane of the mental hospital has been in the past and is now what is the bane of a good many other things in life, namely, politics. We must divorce medicine and politics. Apparently both are jealous mistresses, for it seems that no man is able to be complete master of both, but must devote his entire time, energies and activities to one or the other. There can be no half-hearted or half-way measures in this respect. The divorce must be absolute. There are no positions upon the face of this wide world of ours that should be filled with any greater care and caution than these, the men selected possessing ability, learning, experience and special training for the work, for it must be remembered that the physician who is appointed takes charge of the life, liberty and hopes of these unfortunates. Politicians do not, as a rule, in this connection, stop and realize the importance of the appointments they seek or make. Alas, politics and science, as a rule, make as perfect a mixture as oil and water, and we usually find that the politician either does not seek or is not in a position to recommend a scientifically equipped man who is fit for the work. He has to recommend

one of the "boys in the trenches." The tenure of office is too short, the compensation too meagre to attract to the average "asylum" that talent that is needed in the management of these cases. Granted a hospital of the nature that I will describe, we need a medical executive and nursing force absolutely and completely divorced from politics, and until this is done, we will continue to have doctors at the head of our institutions, but not psychiatrists, and between these two there is a vast difference, which is not meant as a reflection upon either body. "*Chacon a sou gout*," sayeth the French proverb, and likewise this work should be turned over and performed by those whose taste, inclination and ability run in this direction. I would even go one step further and say that it is well to divorce the *practical business management* of such an institution from the medical, though making the "business end" subservient to the one and sole object of the institution, namely, the restoration of the individual to mental and physical health. This is the *sine qua non* of the hospital and the moment that all the energies of the staff and all the methods that can be employed are not utilized to forward this aim, then the hospital is, from its inception and during its continuance, *a failure as a hospital* and should be ranged along with our jails, poor houses and penitentiaries, where purely custodial care is given to the inmates.

There is a prevalent and widespread belief that insanity is, in the vast majority of instances, incurable; this is not true. The vast majority of the insane do not recover because they do not receive proper diagnosis, do not have their cases investigated and practically have no treatment applied. As a result, we have our insane hospitals truly and properly named "asylums," in which are kept hundreds of chronic insane who live and die an "asylum" life, simply because they have been subjected to custodial care alone. The failure on the part of the state to provide for the cure of insanity in the modern psychopathic hospital results in an enormous drain upon the taxpayers and which must gradually increase year by year, unless we arouse ourselves from our lethargy and endeavor to place our acutely insane under the most favorable circumstances for recovery. With a modern psychopathic state hospital the patient could be quietly and without publicity sent for treatment, upon the recommendation of a commission of psychiatrists, whose report should be subject to supervision *in chambers by the county judge*. Personally, I favor a statutory provision forbidding publication in any newspaper, periodical or magazine of the commitment, arrival or departure of any patient from any psychopathic

hospital. I am sure that our good brethren of the press are too liberal and too broad-minded not to realize that the cases enumerated herein certainly cannot by the wildest stretch of the imagination be classed under the head of "news." With the great power that the public press has back of it, it is to be sincerely regretted that it does not institute a campaign by which political and lay opinion could be moulded, as the result of which these unfortunates would receive the best of attention. Gentlemen of the press, the ground is fallow, the team and plow is at hand, will you put your hands to it? There is no nobler work than this and if, by any word or deed on my part, it could be inaugurated, I feel that I could at least claim a place among those who had done things, counted with the servant that is good and faithful. Many states are awakening to needs along this line, and let us be among those who will carry the torch of progress forward, illuminating the path of mental darkness, restoring to the blighted home its loved and lost one, bringing sunshine and hope to hearts that are sore and causing to rise from the depths of sorrow and affliction peans of praise, some loud, some silently expressed. And you, my medical brethren, do not think that you or I have been any less guilty than the most guilty, no less backward than the most backward, for we should have been those who had long ere this blazed a trail along which others might freely follow.

We are *all* given at times to idealism, and it seems to me that one might paint an idealistic picture of the future care of Kentucky's mentally unsound; a certain hospital, modern in its equipment, *located near a large city*, with every facility for diagnosis, investigation and treatment of such cases. Through this hospital every case would first have to pass, and when it was found that the unfortunate sufferer was condemned to the unfortunate state of a permanent loss of mind, he could be removed to one of our present hospitals for custodial care. What would constitute such a modern hospital? Ample and properly built buildings with sufficient grounds, equipped with every known form of treatment, so that such cases could receive ample and proper diet, exercise in the open air, modern hydrotherapy electricity, massage, light baths, drugs, serums, vaccines and other methods that have, or should be found to be effective in such cases.

Such a hospital would be incomplete without its psychological laboratory, equipped with modern instruments of precision, in the hands of a trained expert, with a corps of assistants who could test and study and relieve many cases by well-directed psychological work alone.

In how many hospitals for the insane in this country is to be found a real psychological laboratory with a real psychologist in charge? To the well-posted alienist the day has long since passed when mere stipulating of symptoms and classifying cases under certain heads constitutes the scientific part of hospital work. To-day individual study by modern psychological methods is the only way in which we can hope to arrive at a solution of these problems.

Why locate such a hospital near some *large* city in the state? This is easily answered. In such large cities are to be found men engaged in the practice of all the specialties known to medicine, and they should form an important and component part of the staff of such a hospital. With the staff of all the specialists of medical practice, and such is the broad and liberal spirit of the medical contradiction that there is no specialist worthy of the name who would not gladly and cheerfully contribute his quota of service without the expectation of either fee or favor.

For modern psychiatry has not stood still. It has advanced with rapid strides toward the more thorough and complete understanding of the intellectual mechanism of the insane, and any modern, up-to-date hospital that does not possess a full equipment of psychological apparatus, with experts in charge who devote their time and attention solely to the investigation and study of the ailments and afflictions of its patients, falls far short of the modern conception of hospital work.

No one who keeps abreast of modern psychology would fail to pay, in passing, the highest tribute possible to the monumental work that has been done along this line by Fried, Jung and their collaborators of the German school. The investigations of these men have thrown a flood of light upon the dark recesses of the human mind in health and in disease, and the influence that they have exerted is now world-wide. It is indeed a pleasure to know that in this country and Canada a little group of men are working heart and soul along these lines, in the hope that they may live to see the day when they will receive the just appreciation of their confreres for their arduous labors. We can never forget Putman, Brill, White, Coriat, Sidis and others in this country, and Ernest Jones, in Canada, for the work they are doing. It is to be hoped that their solution will in the near future be assisted by reports from the laboratories of the great Commonwealth of Kentucky.

It is a sad commentary that our present institutions fail to use physio-therapeutic measures when their known efficacy is so great

that they must appeal to the intelligence of every physician in the state. The front rank that hydrotherapy is taking in this country in mental diseases was foreshadowed twenty odd years ago in the work of the German and English alienists, the marvelous results of which I have noted elsewhere.

Have you ever stopped to realize what hydrotherapy would mean to the insane? Have you ever seen a maniacal patient reduced by the soothing effects of a neutral or tepid full bath to a quiet and sleepy patient? Have you ever seen the marvelous reconstructive work that can be done by the electric light bath and douches with the convalescent insane? If you have not, then it were well to harken unto those places where these deeds are daily done, or make thyself conversant with the literature bearing thereon. If a thief robs you of \$5.00 or more, we brand him as a felon and endeavor to take away from him his liberty and to punish him for his acts. How small the anti-social act and how severe the punishment, comparatively speaking, but still a necessary condition for the preservation of society. What would you think of a state—rich, honored, filled with chivalric men and women—who would be willing to rob you of any possibility whereby your disordered and unhinged mentality might be restored to health and usefulness? No state can truly say that she provides well for her insane unless she provides for real treatment and by real treatment we mean treatment for the CURE of mental diseases.

What valueth it that there should be beautiful grounds, a carpet of exquisite blue-grass, blossoming and fragrant flowers, the gentle splash of uplift and downpour of fountains, if within the walls of such an institution no endeavor is made to cure the most unfortunate of all the afflictions by which humankind is made to suffer? Doubly unfortunate because of the peculiar and at present unreasonable attitude of the lay-member toward this most unfortunate affliction. There is too much of a materialistic tendency on the part of the superintendents and boards of trustees or commissioners to devote the *per capita* to the improvement of buildings and the erections of new ones, to making the external show that counts so much to the uneducated eye of the layman, but which is in reality the vanity of vanities to the trained eye of the modern alienist. The whole thing is wrong, radically wrong. Seemingly, the central idea is laid aside, because of the fetish of an old belief handed down from former decades, that cases of this kind are hopeless and incurable from the start. If the truth of the curability of a great many of the forms of mental alienation were really understood, it almost goes without saying that a

swell of public opinion would arise such as would din into the ears of the lawmakers such a persistent clamor that it would end in the appropriation of sufficient money to carry out this work and maintain it for all time to come. Even the "watch-dog of the treasury," in his fiercest moments would not reel that here was one of the instances where, in the name of all that is human, in the name of all that is benevolent, he should keep his growls to himself and liberally provide for those who are so much less fortunate than he, himself. That European countries and, in some instances, this country, is awakening to the needs of these patients cannot be denied, and it might possibly influence these watch-dogs of the treasury to know that nothing would pay better in the long run, relieve the state of more of her burdens, than a properly equipped and well maintained hospital on modern lines for the reception and treatment of cases of insanity in the acute stage.

There seems to be inborn in the American public a suspicion of the treatment asylum patients receive, which is very difficult to overcome and which may or may not have had sound foundation in fact. Whether it has or has not, the suspicion is well developed and this should be one of the fundamental endeavors of the superintendent or medical director of a modern psychopathic hospital to overcome. It seems to be the consensus of opinion that this is best reached by proper education of physicians, not alone while they are occupying the benches as students, but as general practitioners, and especially where they are engaged in active practice. This can best be accomplished by giving physicians the free run of the hospital, enabling them to see the patients, the methods of treatment instituted and the progress made toward recovery. Medical students and physicians should be instructed by lectures, demonstrations, photographs, magic lantern exhibitions and actual work in the laboratory, together with close and personal contact with the patients. In my opinion, this is the only way in which a thorough scientific knowledge of actual conditions can be conveyed to the medical profession, who, I am sorry to say, are at the present time, oftentimes as much in the dark along psychiatric work as intelligent laymen. Laymen should also be allowed to see the work done at the hospital, allowed to know the various methods employed and public lectures given, so that they might become less prejudiced in their opinions; but in order to overcome this prejudice the hospital must be modern, the work and workmen scientific and capable. The staff should be so imbued with this educational work that it would constitute a labor of love rather than a part of real work.

But what will your practical politician say when you broach the question of a million dollars for the erection of a building or receiving hospital for the insane for the state of Kentucky? Will he say that it is a needless expense; that we have ample hospitals with beautiful grounds, and a large number of custodians? Will he say that it is not profitable or wise for this commonwealth to expend that amount of money in the curing of the insane? Let us see as to whether it would pay. If a million dollars were spent in building the hospital I have endeavored to describe for early reception, scientific care, individual attention and modern treatment, what saving would accrue? Not so much at first, outside of the great value of the cures. I think taking all cases that would apply and be sent the same, and in a few years we could safely count upon forty (40) to fifty (50) per cent, including all forms, border-livers, etc. To the best of my knowledge and information, the insane of Kentucky will average about four thousands patients, for which an annual per capita of two hundred (\$200.00) dollars should be expended. This brings the grand total to about eight hundred thousand (\$800,000.00) dollars per annum. These cases will average three years as estimated, hence each case now costs the commonwealth \$450.00. If they were to average a stay of three months in the psychopathic hospital at \$14.00 per week, we would save on each case cured \$282.00. Granting for the sake of argument that 50 per cent of the insane were cured, which is very much in excess of the number now discharged, the state would after a while save 50 per cent, or the grand total, that is \$300,000.00 per annum. This should appeal with considerable force to your economic legislature when approached for an appropriation.

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Men of Kentucky, when will this work start? How long will the noble deed be postponed? Must we sit idly by or lie supinely upon our backs amid a suffering so serious and so frequent that it fairly shrieks to heaven for correction? Can you sleep and rest in contentment when you realize that hundreds of cases curable from the start are rendered incurable by conditions worthy of the dark ages; hearts wrenched, lives blighted, whose hopes are damned? How long, oh, how long? I appeal to you as one of the most intelligent, philanthropic and progressive of associations, and ask that you throw your minds and your hearts into the fight; that you storm the citadel of ignorance; that you break through the murky and dark clouds that cover the horizon; that you let into the lives and the hearts of these afflicted a glor-

ious sunshine of hope and health; that you place yourself upon record as in the vanguard of civilization's progress and that you recognize to the full the despair of these cases and give to them all that can be obtained from an enlightened, scientific and God fearing body of men.

DISCUSSION.

H. P. Sights, Paducah: Dr. Pope's most excellent paper is full of merit, although his criticisms of the state institutions will bear correction. Evidently he is not familiar in a very great degree with the management and conduct of all the state institutions, for were he thoroughly familiar with the work done in these institutions, he would, I think, compliment instead of criticize. There can be no conceit in my making this assertion, inasmuch as that which will follow is the description of the work done by others, and especially the work done in the Western Kentucky asylum by the former superintendent, Dr. T. W. Gardner.

I will first discuss that part of Dr. Pope's paper which so ably points out to you the very grave and inefficient process of the commitment of the insane. In criticism of which there cannot be too much said, for the superintendents at the various institutions get such an imperfect history of the cases that such information is practically worthless. To correct this error the Board of Control has, through its committee, formulated a plan of commitment whereby all the necessary information will be secured and, I am sure, it will satisfy Dr. Pope in his just demand for this necessary improvement. Every county judge in the state will be furnished a copy of this commitment form and requested by the Board of Control to see that all questions therein are correctly answered, and that the paper be sent with the patient, with an earnest demand that the former neglect in answering questions be replaced by a careful observation of every question.

The institution with which I am connected has supplied this information, which had not been secured, by going through the wards with a history sheet obtaining a careful history of every patient in the institution.

The farce of legal trial by jury is a disgrace to our state, and the medical profession, I contend, is responsible for its continuance. There should be a lunacy commission composed of at least two physicians and the county judge in every county, these physicians to be appointed by the State Board of Control. In such a case a careful diagnosis could be made and a proper classification of the mental disordered be determined, thereby saving valuable time that might mean a great deal to the recovery of the patient.

In regard to the Psychopathic Hospital, where acute cases could be sent from all over the state for preliminary treatment, will say that I think that could be obviated by having a department

in each of the institutions where the medical staff could conduct a necessary examination and preliminary treatment for these cases could be given.

As to the present routine treatment of the state institutions, I do not think Dr. Pope gives credit to the meritorious results obtained by the present management and treatment of the insane in our Kentucky institutions, for I am convinced that the treatment of the mind by any medication is a farce, and like Oliver Wendell Holmes said, "If all the medicine were thrown into the sea it would be a good thing for mankind, but bad for the fishes," so far as treatment of the mind is concerned. I, furthermore, have little faith in any form of electrical treatment in conditions where mentality is impaired. The motto of the Western Kentucky Asylum is "tired hands is our best hypnotic." Occupation of some sort is, in my opinion, the best treatment for the mind. Diversion, regular hours, wholesome food, exercise, pure air and kindness serve as our treatment for the insane. With this idea in view, medicine has almost been abandoned by the state institutions, and restraints of every description have been removed from the wards and their use has been condemned by the Governor and the State Board of Control. The results of this have been marvelous, and I dare say that if Dr. Pope would visit these institutions and go through the wards where he formerly saw human beings in restraint like animals, but now as free, perhaps freer, from restraint than in many of the private sanitariums, he would wonder at the possibility even though he is a man of great experience with the insane. This policy inaugurated by the bi-partisan Board of Control and the superintendents of the various institutions is worthy of the admiration of every citizen in the State of Kentucky, and if it continues to bear fruit as it has in the last two years, this example will be followed by every institution in the United States.

The employment of the patients in every physical and mental function that pleases them is the treatment that secures best results, as I see demonstrated at the Western Kentucky Asylum, where forty per cent of the patients are now employed in the garden, yard, stable, kitchen, laundry, dining room, green houses, etc., following their own inclinations. For amusement, they have dances, cards, checkers, croquet, music and we are now establishing a library for them. We will soon have installed a motion-picture entertainment for them. The next element in their treatment is kindness. We have a nurses' training school in which the nurses are taught that kind words and kind acts bear the best fruit. The following lines from James Whitecomb Riley illustrates this point nicely:

"When a man aint got a cent, and he's feeling kind of blue,
And the clouds hang dark and heavy, and won't let the sun shine through,
It's a great thing, Oh, my brother, for a fellow just to lay
His hand upon your shoulder in a friendly sort of way."

A kind word spoken as the door is closed at night is good treatment for many a patient.

Man is at best a barbarian, tethered by some good impulse, and the great secret is to reach that good impulse and bring out the active exercise of his obscured social feeling, thereby counteracting that terrible downward tendency of his disordered faculties. We do not ignore baths, because hydrotherapy is a valuable accessory in the treatment of mental conditions, and its practice in the institutions with which I am connected, has quieted many patients that were violent and greatly disturbed. Summing up the whole question, I am convinced that the state institutions with the pathological laboratories which are now being equipped, their discipline and present mode of treatment of the insane, are as near ideal as any institutions in the United States. While their percentage of cures are not perhaps as high as some other institutions claim, we must allow considerable latitude for error in the cured and improved, and I believe if a strict account was made it would be rare to find a better percentage than 19.9 per cent in the character of patients received by these institutions and cured.

It is unjust to any member of the medical profession to excite and inflame the minds of the physicians of our state by an exaggerated description of conditions that exist only in the highly developed imagination of his brain. Hundreds of physicians over the state have never visited or been inside of their state institutions. For this reason, such a description of the state institutions as given by the essayist could prejudice their minds and cause them to carry home impressions that might be expressed to friends who have relatives confined in some one of the state asylums, causing a great deal of anxiety and unhappiness without a just cause. Therefore, I appeal to every physician in the State of Kentucky to visit the state institution nearest him. This is a duty he owes to himself and state. For the medical profession alone can help perfect these institutions and place them on the highest plane. If the discussion of this subject will excite the interest of the medical profession and the citizens of the state to that degree that they will interest themselves in the subject of the care and cure of the unfortunate insane, it will accomplish a great purpose and Dr. Pope will have done a great service to his state. For the study of conditions and improvements under the present management by a Board of Control will

demonstrate the fact that this management is responsible for the great improvement in the state, and if supported and sustained will be the means of perfecting and satisfying the highest demands that the medical profession may present to them.

This ideal management of the state institution, wherever established, has been a success, and there is no reason why our state should not have ideal institutions if the doctor, the legislators and the citizens want it.

W. E. Gardner, Lakeland: I am pleased to compliment the essayist upon the admirable paper which he has read, and if he has failed to be accurate or practical in any particular, it is because he has not been, actually, in touch with certain conditions that prevail in this state, so far as the commitment and care of the insane is concerned. I hope that Dr. Pope has not been such a busy man, since he served as interne at the Lakeland asylum a good many years ago, that he has failed to keep up with the progress that has been made in our own institutions, and still believes that the same conditions prevail now that existed then. Fresh air, recreation and non-restraint have superseded methods formerly employed. A more individual study of cases has been given, and records of cases are being kept so far as it is possible to do so, with the larger number of patients on hand and the small number of physicians to look after them. And one of the greatest drawbacks we have to contend with in this state, by the way, is the irregular way in which patients are committed to our care and the imperfect histories of cases which are furnished us. Until the courts are required to furnish us more perfect information about the previous histories of cases, we can make little progress toward the keeping of satisfactory records. I believe that a law should be enacted requiring every county in the state to have a proper place of detention for cases awaiting commitment to an asylum, and that they should be under the supervision of the county health officers or some medical board till properly committed and sent to an asylum.

In spite of all the difficulties, however, we are getting results, and while I will not burden you here with a lot of statistics and details about which you hear so much and of which you become so tired, yet a study of the reports of our institutions and those of others will show that with a few exceptions our rate of recovery here in Kentucky is as high as in any other state. This, of course, does not mean that our institutions are perfect, or what they should be, for the trend of modern sentiment is that we shall have a more complete equipment, more extensive record of cases, more laboratory work and more physicians, all of which means that we must have an increased per capita, it being simply out of the question to do all this work with our present

allowance (\$150.00 per year) and our limited staff. But the kind of cases of insanity that recover at the institutions of any state recover at the institutions in Kentucky. Those of you who are familiar with insanity know that it is largely the self-limited forms that recover, and that with a proper elimination of toxine, change of environment, rest, fresh air and nourishment these cases will get well; and while there are cases that may be benefitted by the use of certain forms of therapeutic equipment such as are employed in some of the sanatoria of this and other states for the treatment of milder neuroses and psychasthenic cases, yet all of the measures are subsidiary and will not of themselves produce results.

On July 1, 1908, we had on record at the Lakeland Asylum 1445 patients; during the past two years we received on the first admission 608 patients; on July 1, 1910, we had on record 1428 patients, or 17 less than we had two years ago. The 625 patients not accounted for did not all die. A few were discharged as harmless and incurable; 24 per cent were returned to their homes as much improved, and 27.4 per cent actually recovered. I respectfully refer you to the records.

J. G. Furnish, Covington: I do not think there is much that can be added to the excellent paper read by Dr. Pope, provided his train of thought is followed. The paper was beautifully written and vehemently expressed, but with that I dissent in a great measure from the greater part of it. I have often thought that Kentucky has two things of which she might be heartily congratulated, and one is her medical laws for the government of the profession and the whole people, and the other her institutions. I think if any man will visit the institutions for the insane here he will return to his home with a feeling of pride that he had not enjoyed before. Now, I cannot elaborate a great deal on this matter that was brought up in the paper of Dr. Pope, and the severe criticism to which you have listened, but it was unjust in a great measure. After some observation and a limited investigation I think I can say to you that Kentucky will average with any state in the Union in the care of her insane, and her institutions in many instances are far superior and in a few instances only exceeded. Her percentage of recoveries is just as great as that of other states. I would advocate every resource in medicine for this unfortunate class of people, as I believe they are entitled to the very best that advanced civilization can give them. I believe they should have every advantage that humanity can bestow on them, and Kentucky in this day gives her insane, that unfortunate class of people, as good advantages as any of the states, and her recoveries are not only equal to those of other states, but they are equal to those of any country. She has as many recoveries from her institutions as any

state in this Union, and I believe as any other country of which I have any knowledge. While the resources of medicine may help and aid in a great measure in the diagnosis of the different forms of insanity and may suggest treatment that may contribute in a small measure to their recovery, it is a well-known fact and is so conceded by all scientists and investigators in this line of work that it is largely the acute and the self-limited cases that recover. Now, statistics are uncertain things in medicine, and as I regard asylums, I concede and am willing to give emphasis to that assertion by saying that the statistics furnished by asylums are the most uncertain we have. But with a thorough investigation I believe you will find that the statistics in Kentucky show as many recoveries as those of any state or country.

I agree with the essayist in a good deal of what he has said. Unfortunately I did not get a copy of his paper and did not know just the line of thought he was going to advocate or take up, and therefore my remarks are wholly impromptu. I believe that the admission of patients in the State of Kentucky and in a great many of the states is wrong altogether. I believe the law governing asylums and the present law of this state is faulty in a great measure. I think too much authority in the control of the institutions themselves and in the control of the patients is vested in the Board of Control. I believe the business of any institution should be vested in the Board of Control, but I do believe the control of the patients and the asylum generally should be vested altogether in the superintendent.

George P. Sprague, Lexington: After what Dr. Sights has said, it seems as if one must first furnish credentials for speaking, and I will make that my excuse for saying that for over twenty years I have devoted myself entirely to mental and nervous diseases, during every day of which time I have treated and lived in contact with the insane. I spent a part of every day for many years in pathological and neuro-pathological laboratories, in staff meetings, in post-graduate work with the leaders of psychiatry and neuro-pathology of this country, and after reading all the reports of the Kentucky institutions to which I have had access, some of them published in the early sixties, and having had access to the reports which the State Board of Control has published, after many visits to the Kentucky state institutions and examining the records, I feel constrained to say that I agree with every word Dr. Pope has said, with one or two minor exceptions. I do not know what this gathering understood by the remarks of Dr. Pope. I did not understand from them what Dr. Sights and Dr. Gardner inferred or implied or said that they understood from them. I simply understood that he stated what the conditions were in the Kentucky institutions for the insane, and if I un-

derstood him rightly, I agree heartily with everything he said. It is true, as the last speaker has said, that the statistical reports of recoveries in the Kentucky institutions bear a pretty close agreement with the records of recoveries with some of our best states. But he did not say, he could not say, not having had the advantages of the study of insanity that some of the officials of our better state institutions have had, that the "recoveries" in Kentucky are made up not only of actual recoveries, but of improvements in hopelessly incurable conditions. For instance, I have followed in the Eastern Kentucky Asylum (not during the term of the present superintendent), cases of paresis, pure and simple, which never recover, but the disease itself has stages of remission in a large percentage of cases. I have followed these cases from this asylum, have seen the remission come, and have seen these patients discharged as recovered, and die after the remission ended. I have seen the same thing occur in cases of dementia precox. These patients do improve markedly. They make up the majority, perhaps the largest class of any form of mental diseases that go into our state institution. They frequently have a stage of remission and are discharged as recovered, so that the mere fact of asylum statistics, as Dr. Furnish has stated them, does not mean anything definite.

W. W. Anderson, Newport: The air seems very dense, and I have been expecting the lightning to strike at any moment. I am in a terrible situation all around. In the first place, I did not come in possession of Dr. Pope's paper so that I could discuss it intelligently. Then I have missed my cue in another respect. It has been privately arranged that Dr. Furnish, who has been in the asylum, (laughter) who was gotten out by one of our governors, should relieve me of any responsibility in this discussion by just using me as a horrible example, and he has forgotten his opportunity. It seems to me we are firing a little bit at cross purposes in this discussion. Dr. Pope raises the question, Does the average doctor know enough to get upon the witness stand and testify in cases of insanity? Probably not. Maybe, I am below the average doctor, but I have been looking up and studying this subject for a long time, and I do not know enough to go on the witness stand and testify in regard to cases of insanity, and I do not happen to be sure of the man who does. One of the worst features connected with it is this: I have taken up books on mental and nervous diseases written by men who teach these subjects in medical colleges, and who are supposed to know about the subject because they write books on it, and find I do not know much more about the subject than I did before I consulted their books. It is not true, gentlemen, that the whole subject of mental and nervous diseases is involved in a most intense darkness and obscurity. The nomenclature, the symptomatology, the supposed etiology, treat-

ment and everything else are unsatisfactory, and scarcely any two of the writers of books on this subject in my library agree. This suggests certain needs and the importance of further study of the whole question of nervous and mental diseases. The whole thing needs going over. Dr. Pope, in his paper, makes a strong point when he says that we must make better statistics than we are able to make in our present state institutional method of handling these cases. I did not understand Dr. Pope to condemn the men who are conducting our state institutions. I think they are doing the best they can. I do not think Dr. Pope intended to shoot at any of you, but it is the faulty system which he is condemning. I visited one of the asylums in which there were thirteen hundred and sixty-five patients, and asked the superintendent, who was a medical man, "How much do you use laboratory methods of investigation? How much personal care, real personal care, is given in an institution of this kind to patients?" and he said, "If you rule sixty per cent out of consideration as incurable, you still have too many to be given the care and consideration they should receive."

R. I. Willis, Lexington: I am not at all surprised, gentlemen, at the paper read by Dr. Pope. His arraignment of the medical men who are at the head of these institutions is not at all surprising to me. Just one year ago in this Association there was a paper read by Dr. Wiley, and that paper was discussed by Dr. Sprague, of this city, who made this assertion: "At present, it is true that there is not a man in our state asylums for the insane who is a trained alienist. There is not a man who can surely recognize a special form of a case of insanity unless it is more or less typical. Very frequently very hopeless cases of paresis are being discharged as recovered from the Kentucky asylums because they have reached the stage of remission." Dr. Pope, in the discussion, said that the asylums were under the charge simply of men who are no more than jailors, custodians of these people that were sent to the asylum. Now, I have been connected with an asylum only two years. I graduated from a good medical school and practiced medicine for twenty-five or thirty years in this community and in central Kentucky. I want to know of you what constitutes an alienist? Because a man happens to be born in Massachusetts, serves one year in an asylum, comes and establishes a sanitarium, is he an alienist? Does that constitute an alienist? Does not, Dr. Gardner, who has been connected with asylums for eleven or twelve years, serving during that time in these asylums, know some thing about insanity? Yet we are told that there is not a trained alienist connected with an asylum in Kentucky. Does not Dr. Mulligan, who has been connected with asylums for ten or twelve years, serving as assistant and as superintendent of the Lakeland Asylum, been trained in this work?

Was not Dr. Gardner trained in this work? I do not claim anything for myself, as I am satisfied to leave that to other people. But, gentlemen, this is a reflection upon the intelligence of the men who have been at the head of these institutions. I am tired, gentlemen, of one thing, and that is, of a few men in our state who advertise their private businesses at the expense of the state institutions. (Applause.) What does it matter? I tell you, gentlemen, it takes a little less of your science and more of common sense in the management of insane people. That is what it takes. There has hardly been a gentleman in the medical profession who has come to the Eastern Kentucky Asylum in the last two years who has gone there and investigated cases with a view to knowing anything about them. Dr. Sprague has been there once or twice, and I do know he has never investigated these cases, nor the methods used in the asylums. As to Dr. Pope, I do not know whether he has ever been in any asylum or not. He has never been to the Eastern Asylum, and doesn't know anything about it.

W. F. Boggess, Louisville: I thought I would have something to say on this subject, but after listening to all the discussions pro and con, I thought I had best retire, and retiring I was, when the President sent his emissary after me. But I want to defend Dr. Pope. I am rather of the opinion that Dr. Pope does not need any defense, because he is amply able to defend himself in regard to his paper. Having spent four years in an asylum, I feel that I have some right to speak about asylum matters in the State of Kentucky, and I agree with Dr. Pope in practically everything he has said. I want to say this to you, that we had just as good alienists twenty years ago and twenty-four years ago as we have to-day in our asylums. Take the late Dr. Pusey, of Lakeland Asylum, and take Dr. Frank Clark, then superintendent of the Asylum at Lexington, and you will find that there were no better alienists than these men. The superintendents of hospitals in times past, as they are to-day, have been largely men of affairs. They have had very little to do with the scientific training of the asylum inmates. They were men who looked after the per capita, who looked after the expenditure of money, who looked after the beautifying of the building. We had one or two assistants at the asylum at Lakeland. We had a superintendent who, while largely occupied in the office, looked after the monetary affairs, looked after the buying of coal and dairy products, yet had time to study insanity and study patients. The asylum never had more scientific men than Drs. Pusey and Clark. I had charge of 450 insane women when I was just a student out of college, and while the experience was beneficial to me, I must say that I do not think it was very beneficial to the patients. The percentage of recoveries at that time was just as

large as the percentages of recovery to-day. We had just as many recoveries, just as many remissions, and I doubt if the statistics of to-day are one iota better than the statistics of twenty-five years ago. I want to say Dr. Pusey and Dr. Clark insisted on having what you have been thinking and talking about, that is, absolute freedom from restraint and of having that all the time. The method of handling the patients to-day are the same as they were twenty years ago, except in the case of my friend, Colonel Scott, who takes from the superintendent much of the detail and office work, and had the governor searched all over Kentucky for a man more capable of filling the position of chairman of the State Board of Control, he could not have found a man more enthusiastic about his work, a man of tender heart, whose sole endeavor is for the good and benefit of the patients in the asylums, and he is begging the state for more assistance. He recognizes the fact that we have not enough assistant physicians to look after one-tenth of the patients and give them scientific treatment. To go around the wards and shake hands every morning with patients and say a word or two to them is not treating them. There should be physicians who will spend two or three hours with patients every day for a week after their admission until they find out the type of insanity from which they suffer, until they find out the obsessions of the patients, or their peculiarities, or their peculiar delusions. Unless this is done, such men can have no knowledge on which to pass judgment on these patients. Undoubtedly, there are many men who, if they had the time to do something of this kind, would not have the inclination, nor the capabilities to do this. The crying needs of our asylums are psychopathic wards—and intelligent and scientific treatment.

George P. Sprague, Lexington: I have been attacked by one of the speakers and I feel that I ought to say an additional word. I did not mean to cast any reflection upon the integrity or intentions of any man connected with the asylums to-day or any other day. I was simply attacking the condition of the Kentucky institutions. We are entitled in Kentucky to have as good institutions as any in the United States, and I know they are not in the class with the better institutions, but it is not the fault of the men who are at the head of them or who are managing them. Dr. Willis is doing good work out there. He is doing the best work of which he is capable, but he is not a man who understands neuro-pathology, who understands the pathology of mental diseases, and that is what I meant. This is no reflection upon the doctor whatever.

R. I. Willis, Lexington: I would like to say in reply to what has been said, if the doctor did not mean to reflect upon the superintendents of these state institutions, why did he make that remark?

Colonel Albert Scott: Our state institutions

and the patients in them need the help of every medical man in the state, and I ask you in all earnestness, after hearing this discussion, with which I agree, to use your influence to get from our next legislature money enough to furnish enough physicians and pay them good salaries, and nurses enough to do the work, with proper buildings in which the patients, nurses and physicians shall be housed. At the last legislature we asked for a hospital building at Lakeland, for a hospital building at Hopkinsville, for new cottage buildings at Lexington and Hopkinsville to replace those which an inquisitorial committee condemned as unsanitary, and they gave us a stone. We asked for a greater per capita tax. Forty-one cents per day must pay for the food, the clothing, the light, the heat, the water, the medicines, and pay all physicians and all attendants, and the repairs of all buildings, and the same legislature which refused to raise the per capita tax gave the jailors of Kentucky sixty cents per day for feeding prisoners.

S. R. York, Center: I am not connected with an asylum, but an illustration of one case will give you an idea of the point I want to bring out. I went to an asylum to see a patient, a friend of mine, at Nashville, who was under the care of Dr. John Colender, a specialist in nervous and mental diseases, (was then superintendent of the asylum at Nashville) and there is no better man in the south. He was expert witness in the trial of Charles Gittau. I heard that this patient was in a dying condition and was sent with friends to bring him home to die in the presence of the members of his family. The superintendent showed me how they had to feed that patient. They knocked out his front teeth in an effort to open his mouth to feed him through a stomach tube. He was brought home to die, but in a little while the patient got well. They told me that they were compelled to resort to forced feeding in some cases, and these things are no reflection upon the superintendents or physicians of our state institutions. In this particular case referred to, the cause of insanity was a suppuration of the mastoid cells which, if operated on fifteen years before, could have been relieved, thus obviating the need of sending that patient to such an institution. The superintendent of the asylum, the one best qualified to treat such conditions, had his whole time and talent taken up with the business affairs of the institution, and had no time to study the cause of insanity in each case and properly treat it. If the cause is physiologic, it should be so treated; if social, so treated; if psychologic, treated as such. Those in charge of our institutions that are qualified to treat properly the unfortunates that are sent there are busied with the affairs of the institution and crowded with every class of insanity and criminals. These conditions need the careful consideration of every citizen in the state.

Curran Pope (Closing the discussion): I thank

you, gentlemen, for the free discussion of my paper. (Bouquets and brick-bats.) I told you the plain truth. I feel just like a Daniel come to judgment. Did I not proclaim in the opening sentence of my paper that I knew these gentlemen at the heads of insane hospitals would misunderstand me? Did I not offer them a bouquet as fragrant as man can make and as beautifully colored? Did I not say that they were the victims of this faulty system; were no more to blame than the patients? And I tell you, gentlemen, our warm friend, Colonel Scott, has struck the keynote of just what I said, that it must be wrought in blood and bronze, mortar and money. We are not going to accomplish anything for the insane of Kentucky unless we change our present methods. I did not come from Massachusetts. My people came from Popes Creek, Virginia, came down the Ohio in a flat-boat when Kentucky was a primeval forest, when no habitation graced the site of the city of Louisville, and have lived in Louisville, Jefferson county, from that day to this, and have never been in Massachusetts. (Laughter.) I would no more cast a reflection upon an honorable member of my profession than I would expect him to cast it upon me, but, as I stated in my paper, I am speaking, not for the asylums in Kentucky, not for the asylums of Ohio or West Virginia, or any other state, for I tell you they are just as bad, every last one of them, but I am speaking for that body of men that stood against the prevailing opinions and feeling of the world. The German investigators and others have said that these men and these women and these children shall have back their reason, if money and science and knowledge and work can give it to them. Let us lift Kentucky out of the slough of despond, of gloomy desolation. Let us put her where she should be. Let the other states do the same. That is what we want. I hold in my hand some statistics, and I find that 25 per cent of the acute insane that enter the wards of Bellevue come out cured in less than fourteen days. Think of it! Think of it when modern treatment is applied! I did not have time to read these to you, but, after all, putting it on a money basis, it is the cheapest; the best thing to do is to cure the mentally sick rather than to let them be turned over to the asylum later. Bellevue has turned out in less than six months more than 50 per cent of its inmates, taken from the worst class of New York's tenements, as cured, and in view of this fact, will any of you tell me that Kentucky is as good as any other state? I say to you, that you are not true Kentuckians if you are satisfied to have Kentucky as good as any other state. (Applause.)

ELECTRICITY IN THE DIAGNOSIS AND TREATMENT OF DISEASE.*

By J. J. RODMAN, OWENSBORO.

Your Committee on Scientific Investigation has assigned me a wide subject upon which to write. I cannot and shall not attempt to cover it as effectually as the mortgage covers the home of the prospective buyer of a motor car.

The quack had almost the exclusive use of electricity for so long a time, and it is yet in such poor repute with some members of the profession, that it may have the appearance of temerity in me to read a paper on the subject, especially as I am persuaded that not a few of my audience have little or no use for this agent in medicine. It is used extensively by some who are enthusiastic, and who believe that they get good results in nearly all cases. Others use it in select cases only, and find that it answers their purpose better than anything else. A few there are who employ it for the psychological effect alone, believing that it has little or no intrinsic value. Some, who do not take the time and trouble to study it, consider it of no therapeutic value whatever, and look on the electro-therapeutic specialist as a crank. For these, some of the elementary principles may be interesting.

The galvanic or constant current is one of magnitude, containing more amperage electricity, and less voltage force. It flows smoothly on through the tissues and is not felt, making a milliammeter a necessity for correct dosage. It has a distinct polarity and when one pole is indicated, the other is contraindicated. The positive pole is sedative, contracts blood vessels, is haemostatic. Conversely, the negative pole is stimulant, dilates blood vessels and increases hemorrhage. The positive has the effect of an acid, and is frequently spoken of as the acid pole. The negative is alkaline. The positive hardens tissues; the negative softens them. The positive, when more than fifty milliamperes are used, is bactericidal. The negative prepares a hotbed for bacteria.

When these principles are known it is not difficult to find their application.

Where there is swelling and severe pain from pressure, nothing is better than the positive pole applied over the seat of the trouble. It contracts the vessels, sends the blood on its course, thereby relieving congestion, and, by its soothing effects, banishes the pain. In like manner it will abort the forming boil

or felon and hasten the healing of an open sore.

But when you have an old or indolent ulcer, the conditions are different. The blood vessels are crowded from without by adventitious material—broken down cells, coagulated lymph, bacteria, etc. What is to be done? Soften the coagula, stimulate the cells that have been worsted in their contest with the too numerous bacteria, dilate the blood vessels, permitting a better flow of blood to the parts. In such a case the negative pole will accomplish the desired results. Moles, warts and unwelcome hairs are removed by the negative pole, with no resulting scar to tell the tale.

Strictures of the urethra are best treated with the negative pole of the constant current. Since it has been so used the dictum of the old masters in surgery—I well remember D. W. Vandell's positive way of putting it—"Once a stricture always a stricture," has lost its terrors, for Newman has proven the contrary to be true. Neiswanger quotes Newman thus: "Five milliamperes five minutes every five day," but I find that five milliamperes causes too much pain, and that a smaller current will effect a cure.

A young man came to my office with a urethral stricture that was causing him some trouble. I treated him with from two to three milliamperes and told him to return the next week. I did not see him until I met him on the street six weeks afterward, when I asked him why he had not been back. He replied, "I am well."

Chronic endometritis, specific or non-specific, is relieved and cured more quickly and more easily by electricity than in any other way. Here an intra-uterine zinc electrode, amalgamated with mercury attached to the positive pole, is the best, employing from twenty to one hundred milliamperes for from five to ten minutes. The current tones up the cell growth, which is always sluggish in chronic inflammation, and the mercury is dissolved by the current and carried into the tissues by cataphoresis, where it exercises its effects as a germicide and alternative.

In uterine fibroids it relieves the pain and pressure symptoms and controls the hemorrhage in a great many cases, and in a few reduces the tumor in size, making it a most valuable remedy in this very troublesome complaint.

Massey, of Philadelphia, uses the constant current in the treatment of cancer with good success. He employs a zinc electrode amalgamated with mercury attached to the positive side of the battery, turning on 100 to 1100 milliamperes for from 30 to 90 minutes. It kills the adjacent tissues and the

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mercury is driven into the surrounding parts, destroying adventitious cells. The slough that follows is entirely aseptic, and healing goes on rapidly. He treats with positive benefit, many cancers that are inoperable.

Therapy has been based for many years on the findings of pathological anatomy. This begs the question. The therapist's best guide is the study of pathological physiology. The morbid entity or disease is not a consequence of the lesion. A phase of functional troubles precedes the establishment of anatomical lesions, for example in blood vessels, viscera, and in the structures of nerves and muscle. In artero-sclerosis and its accompaniments, the sclerotic stage is preceded by one presclerosis, when no lesion exists. The same is true in chronic inflammatory and degenerative conditions of the viscera, in valvular disease, angina, apoplexy, and, above all, in that common condition, with an unrecognized pathology, but which evidences a definite pathological physiology, neurasthenia."

"There are clearly defined and readily recognized symptoms due to the absorption of toxins before the development of the neuritis, rheumatism, gout, kidney changes or a cerebral irritability, for example, which point the way to the best that physiological therapy affords, as well as the best hygiene and sanitation. The constant current is not only rationally indicated in all conditions of pathological physiology, with a definite and direct value therein, but it is also of great value in the anatomical lesion dependent thereon. In common, however, with all therapy, results are most promptly obtained by treating the disturbed physiological condition before organic changes have taken place."

The Faradic or alternating current, the one so much used by the quack because it made a noise and could be felt, is not now used extensively in medicine. The galvanic interrupted current gives better satisfaction in most cases. The sinusoidal is more used, but as I cannot speak from experience of it I shall pass it by. The static current has the highest voltage and least amperage of all, and is very useful.

Positive insulation equalizes the circulation and respiration to some extent. It quiets the nerves and increases elimination. In this way it tends to induce sleep and to increase the appetite and improve the digestion.

I put a consumptive with a sub-normal temperature of 96° on the platform connected with the positive side of the machine, and in fifteen minutes his temperature was 98°. This happened not once but many times. Her skin became warm and she experienced a feeling of well-being. Per contra, if the

temperature is above normal it will sometimes be reduced, but I have not found that to occur often.

One man had his all invested in business and things were going wrong, as they so often do. He worried till he became nervous and could not sleep. One of these treatments, with a head breeze every evening for four days caused him to sleep all right, and to regain his equilibrium and strength for work. In about seven weeks he felt the necessity for them and took three treatments. Ten months after that he took two treatments. These treatments were always followed by the desired result.

Another man who worried over his business affairs until he could not sleep took eight treatments during March, 1903. He was very busy and could not come regularly for the treatments, hence the increased number became necessary. In October of the same year he came three times. Again in October, 1906, he became nervous and took three treatments. He slept after each series of treatments.

Comment on these cases is not necessary. The men knew where they could get relief, pleasantly and without bad results, and came as often as it was needed.

The high frequency current delivered through a glass vacuum tube from the positive side of the static machine is not painful, and it will relieve a great many superficial neuralgias, will render aseptic and abort a forming boil or felon.

The Morton wave current is the one I use most of all the static modalities. I have relieved a great many cases of obstinate sciatica with it. If the complaint is not of too long standing it will be relieved very quickly. If it is due to traumatism or pressure from a tumor, it will not be cured by this treatment. One case got relief from the first treatment and the pain did not return. Another very obstinate case of fourteen months' standing required forty-two applications to effect a permanent cure. It is true that the man could not come regularly to my office, otherwise the treatment might not have been so protracted.

Lumbago is relieved and frequently cured by this current. Some one may ask how rheumatism may be cured without elimination. This modality causes free elimination. Every cell of the body takes on the vibration, is refreshed and becomes more active, thus increasing elimination of effete material.

One patient, sallow and anemic, who suffered from a general systemic poison for eighteen months, was not even benefitted by applications of the wave current over the

seat of the sciatic pain. She afterwards got relief at Martinsburg, Ind.

That sudden and severe pain known commonly as "a crick in the back" is relieved and cured by from one to four applications of the wave current over the seat of pain.

DISCUSSION.

M. L. Ravitch, Louisville: It is to be regretted that electrical therapy has not been accorded more space and more time on the program. It robs the essayist of expounding all the important facts. The subject is too great to be discussed in a short paper. The essayist has ably demonstrated the use of galvanism and faradic currents. I am sorry he did not mention the use of galvanism in goitre and glandular affections. I am sorry he did not bring up the use of electrical rays, such as X-ray and high-frequency current. While many accidents have happened to the patients, as well as to the operator, the X-ray and high-frequency current have proven to be a blessing to humanity for diagnostic and therapeutic purposes. It is through the lack of knowledge and careless handling of the X-ray that these accidents have occurred. You very seldom hear now of any accidents. We know now how to administer this valuable therapeutic agent without fear of accidents. In my specialty, skin diseases, X-ray occupies a prominent place. I have collected in the last six years a most reliable report of the use of the X-ray and high-frequency current with the following results:

Epithelioma: Results accomplished depend upon proper choice of cases. Most favorable are those situated on the surface of the epidermis. The best results are achieved by a combination of X-ray and high-frequency spark. In deep-seated carcinoma there is very little to be expected. It is more encouraging in the various forms of sarcoma.

Acne Vulgaris: The results are very gratifying, while in acne rosea the results are not as good.

Psoriasis and Eczema: The value of X-ray is well established.

Lichen Planus, Lichen Chronicus and Lichenoid Eczema: Though conditions are more stubborn, they generally yield to X-ray treatment.

Lupus Vulgaris: Those affecting the mucous membranes are best and most successfully treated with high-frequency spark.

Lupus Erythematosus: Yields nicely to high-frequency spark, but are apt to recur.

Verrucae and Naevi: Some types easily destroyed with the high-frequency spark.

Keloid: To expect permanent results we must persist with X-ray until a fair degree of dermatitis is produced.

Folliculitis Decalvans: Yields to X-ray treatment.

Pruritis: Is greatly benefited by either current.

Rhinoscleroma: A cure can be accomplished if treatment is persisted.

Mycosis Fungoides: The X-ray is the only remedy that is really beneficial to relieve suffering.

Sycosis, Favus and Trychophytosis Capitis: The X-ray treatment is a remedy par excellence.

Hyperidrosis: This condition may be benefited by X-ray, but after a long series of treatments.

It is to be hoped that such reports will be confirmed to by others. In my own practice the most brilliant results were accomplished in acne, acne rosacea, mycosis fungoides, keloids, tubercular adenitis and varicose ulcers. Simple goitres were benefited, while cystic goitres did not improve under X-ray.

WATER SUPPLY AND SEWAGE DISPOSAL.

By PAUL HANSEN, BOWLING GREEN.

The interrelated problems of providing pure water supplies and of safely and inoffensively disposing of sewage call for the greatest and at the same time the most fruitful efforts of sanitary engineers. It is the intercommunal nature of these problems that has forced the establishment of sanitary engineering departments in connection with the state health departments. Even the national government has been obliged to consider such problems, and in the absence of a much-needed and properly organized national health department they have been assigned to the agricultural department of the U. S. G. S. and other government bureaus. It is true that the common law of the country contains provisions for controlling the relation between water supplies and the disposal of sewage, but actions at law are slow, cumbersome and uncertain, and in this connection the final decisions are very apt to lack the poise and rationality of expert opinion. And after all it is prevention that is the essence of effective sanitary control, and not action after the fact, as generally obtains when the courts are involved.

Many states now have engineering departments, the most notable of which are those for Massachusetts, Ohio, Pennsylvania and New York. All are provided with large sums of money annually for both investigation and experimentation, and their work forms the basis of sanitary engineering as it is now practiced in this country and, to a large extent, as it is practiced abroad. It is a matter of congratulation that Kentucky has now undertaken to establish such a department, planned upon broad lines, and it is confidently hoped that the legislature will see the wis-

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dom of providing liberally for its maintenance.

Notwithstanding what has been said about the necessity of state departments of sanitary engineering in regulating and adjusting the interrelated problems of water supply and sewage disposal, it must be recognized that but little can be accomplished, even supported by the most legally impregnable authority, unless the department's efforts are backed up by an educated public opinion. The fact will probably always remain that sanitary education is more potent than sanitary law. Instinctively the people look to their physicians for instruction and guidance in all sanitary matters, so that engineers have long realized that without the co-operation of the medical profession their efforts are sure to be in very large measure fruitless. With this in view, I feel myself especially privileged in being permitted to discuss these important sanitary engineering subjects before such a widely representative body of doctors.

In approaching the discussion of our subject, it will be well to note the various ways in which a satisfactory water supply may be obtained. It goes without saying that an originally unpolluted water is that to be most desired, for in sanitary matters as well as in matters of human life, "innocence is better than repentance."

The waters most likely to meet with this ideal are those derived from the ground. The community which has an ample ground water supply of good quality is indeed fortunate, but only the smallest communities and a favored few of the larger communities can secure such a supply, so that by far the greater portion of the urban population of the country must depend upon surface streams and lakes.

It must not be imagined, however, that ground water is not subject to contamination, and the possibility of contamination should always be guarded against. Water supplies derived from open limestone formations, such as abound in Kentucky, are perhaps the most treacherous of all supplies since they often receive at unsuspected points sewage pollution through abandoned wells or holes drilled especially for removing household wastes. It is most important that communities built over porous limestone deposits should be adequately sewered and that all wells should be maintained under the strictest supervision by the local health authorities.

In some few instances where an entire watershed can be controlled and by frequent and thorough patrolling, the various water courses can be kept free from pollution, it is possible to obtain a satisfactory surface water supply without resorting to purification methods.

With the increase in density of population and growth of communities it becomes necessary to furnish the majority of municipalities with water drawn from unprotected streams, many of which are known to continuously receive pollution from sewage, foul surface runoff and a great variety of other wastes. It is this last mentioned class of public water supplies in which we are especially interested and moreover they afford most of the complex and delicate problems with which the sanitary engineer must deal.

The question at once arises, to what extent must sewage be purified in order to render the stream which receives it suitable as a source of water supply, assuming that the water will also be purified before it is delivered to the consumer? Unfortunately, this question cannot be fully answered within the limits of a short paper, and moreover many phases of the question are still matters of disagreement or uncertainty among experts.

There is one point, however, upon which all experts agreed, namely, that no water supply should be drawn from a polluted stream or one subject to pollution unless the water is purified by well-established purification methods. These established methods have been so perfected that it is possible to render safe even a very highly polluted water. At the stock yards in Chicago water from Bubbly Creek, which is practically crude sewage, was purified to an extent that caused it to show upon analysis a much lower bacterial content than the regular Chicago city supply and it was fully as good, if not better, in appearance. Nevertheless, it is a matter of general agreement among sanitary engineers that this represents an ultra-extreme case and should not be considered acceptable practice. Only waters comparatively free from contamination should be used, and to this end state and nation should unite to put a stop to the present gross pollution that renders many of our most beautiful and useful waterways little better than open sewers.

On the other hand, it is possible to demand too much in the way of purification of sewage and wastes before they are discharged into streams. It must be borne in mind that streams, while they should not be subjected to gross pollution by sewage and industrial wastes, are still natural drainage courses and will unavoidably be polluted by more or less objectionable surface washings and by intermittent dumping of refuse and fecal matter from shores and boats. Again, too, rigorous requirements are often not warranted for the reason that in all streams a considerable degree of self-purification takes place. This self-purification is by no means as thorough and reliable as was formerly supposed, nor is it possible to state any definite distance of

flow within which all evidence of pollution will have disappeared; for this distance will not only vary widely for different streams but will vary widely for the same stream under different conditions of temperature and stage of water.

By sanitarians it is now generally recognized that the most that can be reasonably demanded under ordinary circumstances, in the matter of maintaining the purity of streams, is that sewage and other wastes, before being discharged into the stream, must receive that degree of purification that will remove all sensible evidence of pollution. In some instances, where water works intakes must be located at comparatively short distance below sewer outfalls or the outfalls of sewage treatment works, it may become advisable to disinfect the sewage or sewage effluent as the case may be. As a rule, however, it may be said that outfalls for sewage or sewage effluents, should not be permitted to be located within a dangerously short distance above existing water works intakes; nor should it be permitted to place a water-works intake within a dangerously short distance below existing sewer outfalls, unless, of course, such outfalls can be diverted.

We have already seen the possibilities of water purification in the case of the stock yards plant, yet there is a natural repugnance on the part of most people to drinking water which is known to have at one time contained fecal matter. It has also been suggested that greatly polluted water, even after efficient filtration, may contain in solution certain poisons that will have a deleterious effect on the human system, but on this point there is very little positive evidence. This is not so strange when it is realized that an analysis of even a much polluted water shows but a very small amount of actual polluting matter even when this is expressed in parts per million. Of further interest on this point it may be mentioned that at the stock yards filter plant the attendants regularly drank the filtered water for over a year without showing any bad results therefrom.

The final decision in regard to just how much pollution may be permitted in a water which is to be used as a domestic supply after purification must after all be a matter of ethical rather than scientific consideration. An engineer should always adopt the most nearly pure water available.

Having reviewed the objects to be accomplished by water and sewage purification and their relation to each other, it may be well to review some of the methods used in water and sewage purification. Owing to the limited time allowed for the reading of this paper, the review must necessarily be very brief and

incomplete. There are two types of municipal water filtration now in extensive use. The one is known as slow sand filtration and the other as mechanical or rapid sand filtration.

A slow sand filter consists of a shallow impervious basin usually half-acre or so in area, and covered over in cold climates. The bottom of this basin is provided with a system of under drains. Over the under drains are placed layers of gravel graded from coarse at the bottom to fine at the top, and having a total thickness of about 18 inches. On top of the gravel is placed a bed of fine, clean sand to a depth of 3 or 4 feet. The sand is never permitted to have a lesser thickness than 18 inches after repeated scrapings for cleaning purposes. Means for admitting the water on to the surface of the sand and for draining off the effluent at a uniform rate complete the filter. These filters become effective only after water has passed through them for several days, or until there is formed at the surface of the sand a slimy film composed of zooglea formation, as a result of bacterial growth, together with mud and dirt. This film, or, to use a commonly adopted German word, "schmutzdecke," is the true filtering medium and removes even the smallest bacteria. The rate at which these filters can be operated successfully is from three to six million gallons per acre per day. They are not efficient or economical for treating muddy waters, but are very successful in treating comparatively clear but polluted waters. Such filters are in successful use in a great many places, among them Hamburg, London, Philadelphia and Albany.

The other form of filter, namely, the mechanical or rapid sand filter, consists of a watertight box or tank, as yet never made larger than about one-thirtieth of an acre, and generally much smaller than this. In the bottom is placed a grid of piping or concrete channels fitted with a large number of brass strainers or screens, never more than eight or nine inches apart in either direction. Over this is placed about ten inches of graded gravel and then about thirty inches of medium-size and very uniform siliceous sand.

As these filters are operated at a very high rate, namely, 125 million gallons per acre per day, as against a maximum of 6 million gallons per acre per day for slow sand filters, it is manifestly necessary to form the filtering film by some more rapid means than by natural accumulation. To this end a chemical coagulant is used, usually sulphate of alumina, which, combining with the alkalinity of the water, forms a flocculent precipitate which deposits on the surface of the sand in a very few minutes and acts quite as efficiently as the naturally formed film in the

slow sand filters, even with the water passing through at the much higher rates.

As some time is required for the precipitate to form and as it has furthermore been found to greatly increase the economy of operation, especially for turbid waters, a period of sedimentation is allowed before the water passes onto the filters.

Owing to the rapid rate of filtration and the rapidity with which the filtering film accumulates, mechanical filters must be cleaned once or twice per day as against about once per month for slow sand filters. This is accomplished not by removing the sand but by sending a reverse current of clear water upward through the sand bed and in such volume as to cause the sand to rise in suspension. The soiled wash-water is conducted off evenly from the surface by suitably placed troughs. During washing the agitation is usually assisted by mechanically operated stirring rakes (whence the name mechanical filters) or by blowing compressed air into the bottom.

Mechanical filters are especially adapted to treating turbid waters and are successful in this respect where slow sand filters would be a failure or prohibitively expensive. Mechanical filters plants are in successful use among many other places, at Cincinnati, Louisville, Columbus, Toledo and Paterson.

Turning now to methods or sewage purification, there are available intermittent sand filtration, contact beds and sprinkling or percolating filters. These three methods are sometimes used in combination and nowadays are generally preceded by preliminary treatment of the sewage in sedimentation tanks. All three of the above methods are an outgrowth of the primitive methods of applying waste matters to the soil, and depend for their successful operation on the activity of bacterial life in reducing the complex organic compounds to simple mineral compounds, principally nitrates.

It is the common knowledge of every country housewife that if waste sink waters are thrown onto the surface of the ground, all traces soon disappear, though there may be later found on the spot a rather luxuriant growth of grass. The housewife also knows that if too much waste is thrown on one spot the ground becomes clogged and foul and vegetation dies. This illustrates the basic principles of sewage treatment.

Sewage farming is purposely omitted from the above enumeration, for it has been found from experience that sewage has but very little manurial value and is of advantage on farms only because it is wet—that is, as an irrigant. This fact does not seem so strange when it is considered that analyses show the

average American sewage to contain but one part in a thousand of organic matter. Now, as the rainfall in this section is already great, the addition of sewage would, at certain seasons of the year, be a burden to the soil rather than a help. Moreover, the elaborate care necessary in properly maintaining sewage farms render this method very expensive.

Intermittent sand filtration is the most adaptable method for small communities in this country where suitable sand is available. It consists merely in the intermittent application of sewage to beds of sand not less than three feet in thickness and properly under-drained. It very successfully treats the sewage of 1,000 persons per acre of sand area.

Because of costliness of material or lack of area, more rapid methods of treatment than intermittent sand filtration had to be devised. There was then evolved the contact bed. This consists of a shallow water-tight basin filled with a coarse material, such as broken stone, brick, cinders or coke. The mode of operation consists in permitting the sewage to stand in contact for a few hours with the material contained in the beds. The effluent is not as clear from intermittent sand filters, but is not or as free from organic matter as the effluent putrescible and therefore is quite acceptable under certain conditions. With beds five feet in depth one acre can care for the sewage of about 5,000 persons.

In seeking still more rapid methods, the sprinkling or percolating filter was devised. This consists of a bed of coarse material never less than five feet in depth and thoroughly under-drained, with means for continuously and evenly spraying the sewage over the surface of the filter. By this device aeration and contact of the sewage with the filtering medium are obtained at the same time and hence the high rate of treating the sewage of from 15,000 to 20,000 persons per acre can be attained.

Time does not permit a comparison of the various methods and a discussion of their respective applicability in the light of local conditions. Suffice it to say that intermittent sand filters are best adapted to small town installations; contact filters to installation in moderate-sized towns; while sprinkling filters rarely prove entirely successful in cities of under 20,000 or 25,000 population.

From the foregoing it cannot but be apparent that the interrelated problems of water supply and sewage disposal are very complex and must be worked out not only in the light of immediate local conditions, but also in the light of conditions in neighboring communities. Hence, it is not only a central supervising authority that is needed, but an arbitrator for the conflicting interests of neighboring communities.

My as yet very limited knowledge of the state of Kentucky does not permit me to speak positively, but it is ventured that there is much room for improvement in water supply and sewerage conditions in this state. Fortunately, the past efforts of the Kentucky State Medical Association and the Kentucky State Board of Health have done much to ripen public opinion and legislative opinion, (not always synonymous) to the necessity of appropriating moneys so that now active corrective work can be done.

Kentucky should now be able to assume the attitude of Dr. Channing, brother of the noted Unitarian divine, who, when he was called upon by the mistake to conduct a religious service, said, "It is my brother who preaches—I practice."

EXPERT TESTIMONY.*

By HON. EDWARD J. McDERMOTT, LOUISVILLE.

The subject of expert testimony continues to excite attention, because the gross abuses of it are too patent to be denied with any plausibility; and therefore a remedy must be found. In cases involving a murder, a will or a personal injury the need of the evidence of experts is clear; and yet such evidence is often ridiculous or disgraceful.

In spite of the penalty prescribed for perjury, ordinary witnesses often swear to falsehoods for themselves or for others. The extent of the evil is astonishing. If witnesses who are allowed only a petty sum for their attendance in court and who are testifying only to what they are supposed to have seen or heard—only to actual facts within their knowledge and the knowledge of others—if such witnesses swear falsely in spite of the law and public opinion, how much greater is the danger of false testimony from witnesses who are paid large sums of money, whose compensation is generally contingent on the success of their side, who testify merely as to their theories and opinions and who of necessity are practically free from any danger of ever being punished for perjury. As laymen are generally ignorant of the sciences and of the truth or falsity of scientific or professional theories, which vary from time to time and are often incapable of being clearly shown to be true or false, public opinion can have little weight in keeping experts to the path of truth and the courts have practically no chance to punish a man for swearing to an unsound theory or for misstating his real opinion. A charlatan or a corrupt expert can always say that he has truthfully given his opinion and he

can always find plausible grounds for his inaccurate or even extravagant theories. It is hard for the public and almost impossible for a jury of inexperienced laymen to distinguish between a clever charlatan and a learned expert or between a shrewd, positive expert that is paid to distort scientific facts and theories and a conscientious, exact student of his profession who will misrepresent nothing and will not be positive where positiveness is impossible. The best men of a profession may easily distinguish between the honorable and the dishonorable in their ranks, but the best men are silent or helpless under the present system.

As litigants can prove ordinary facts only by the testimony of witnesses that happened to observe those facts, it is wise to allow the litigants to produce such of the witnesses as they may choose, for all are presumed competent to tell what they saw or heard and may be caught in perjury; but when hired witnesses are to be produced merely to offer their own opinions or conclusions as to the facts to be inferred from the facts related by others, there is more need for circumspection and supervision by the court. There is usually not much trouble when experts merely prove the settled axioms or principles or even the probable theories of their science. The chief trouble arises when such experts, partly usurping the functions of the court or jury, give their conclusions, on hypothetical questions or on the testimony of litigants or other witnesses. Here the danger of error or bias is great; and the only possible punishment for dishonesty is the contempt of honorable and competent men of the profession.

What are our remedies?

First, each profession—especially the medical profession, which is called on most for expert testimony—must try to create a strong opinion, in its ranks and in its public associations, in favor of higher ethical standards and must frown down its weak or corrupt members that allow themselves to be misused or besmirched as false or foolish witnesses. Every doctor of that sort brings discredit on his betters. This part of the reform you must work out by creating a sound sentiment among your members. Every doctor that, for money or for friendship, becomes a partisan and foolish or dishonest witness should feel the weight of your displeasure.

Second, the courts must be induced to inquire more fully into the qualifications of pretentious experts and to handle, with more care and strictness, this class of evidence which is often useful and which can sometimes be corruptly used with success and impunity. This part of the reform must be ac-

*Read before the Kentucky State Medical Association, Lexington, September, 1910.

complished by the lawyers and the courts. I must frankly say that many lawyers do not want any such reform. They feel that they often need you to pull their chestnuts out of the fire, even if you do get your fingers burned.

Third, legislation must be devised to strengthen the court's control of opinion-witnesses and to prevent selfish and unscrupulous litigants from getting much benefit by hiring charlatans or cranks or dishonest, but shrewd and plausible men of sufficient learning and experience to enable them all the better to deceive a jury. In the Federal Courts and in those States that allow the Judge, as in England, to instruct the Jury on the law-questions involved and to review and comment on the evidence, expert evidence may be fairly well handled without new acts of the Legislature; but, in Kentucky and many other States, the Judge's sphere is so narrowly limited that legislation is necessary.

We can not accept the European theory that the experts appointed by the court should not be subject to cross-examination; but the courts should strictly prevent any abuse of the privilege. A real and candid expert, who has prepared himself for the test has nothing to fear from cross-examination so long as the court requires it to be conducted with courtesy.

The law of evidence is under the control of the legislature and the courts, though, in criminal cases, the Constitution gives the defendant the right to be confronted by the witnesses against him. Our Code and statutes now restrict the rights of a litigant as to the production of his proof. There fix the qualifications and compensation and, in some cases, the number of ordinary witnesses and the form of direct-examination and cross-examination. The legislature has even a clearer right to regulate the selection and compensation of experts, who are to give their opinions or conclusions, though many lawyers believe that the Constitution has not allowed the legislature to take from a party the right to choose his own experts.

It seems to me clear that the legislature has the power (1) to regulate the selection or calling of experts or opinion-witnesses and (2) to regulate their compensation. It also seems clear to me that the legislature, in the interest of truth and for the protection of both the medical and legal professions, should regulate both the selection and the compensation of such witnesses. The disreputable doctor and the disreputable lawyer and their clients now have such an unfair advantage of their reputable adversaries that truth and justice are too often trampled

down. As litigants with most money at their command may get the greatest number of experts and the most expensive experts, the court should have the right (1) to prescribe a list of eligible men (2) to limit the number to be called, and (3) to fix the compensation. No witness in any case should have a contingent fee. He should not have his compensation depend upon the success of his testimony or his side. This is too great a temptation to partisanship. It may be wise (in the interest of the poor, to allow a lawyer to be employed on a contingent fee; for he is not a witness—he is not swearing to the right of his side—but there is no excuse for allowing a witness to be so tempted by self-interest to deviate from the truth where a deviation is so easy, and is never punishable, in an expression of a mere theory or opinion. Even contingent fees of lawyers, in damage-suits and perhaps in other cases, should be subject to the scrutiny and control of the courts to prevent hardship and injustice to the poor in whose interest such fees are supposed to be allowed. Moreover, if a list of eligible experts be prepared before it is known for whom or even in what case they will be called, there is less likelihood of bias or unfairness in the selection by the court.

In a strong and interesting address by Judge William Schofield before the Suffolk District Medical Society, on October 30, 1909, and published in July, 1910 in the *Journal of the American Institute of Criminal Law and Criminology*, a new and valuable magazine, it is said that the best experts would not serve for the scant compensation likely to be allowed by the court. The court could compel them to serve; but compulsion would probably never be necessary, because most experts would be willing to serve for the sake of truth and for the sake of their calling. Many able men serve in public office for a compensation far below what they could make in private business. Under existing conditions, a real expert dislikes to be put forward in competition with a charlatan or a dishonest member of his profession.

It is said that the courts ought not to be allowed to make up a list of eligible men because the number required would be considerable and because the appointment (being desirable) would subject the judges to "solicitation." This objection partly answers the preceding objection. Moreover, the judges (though free to choose for themselves) could be aided in this task by the suggestions or advice of the best experts in their profession and by their associations highest in rank. A list of medical experts might be furnished to the judges by the

State Board of Health or State Medical Association and the judges could add to or take from that list at will.

It is also said that the judges can not be assumed to have special knowledge of the qualifications of experts. It surely may be assumed that men intelligent enough and well enough acquainted in the community to become judges will, at their leisure and with outside advice, have a better chance than a jury to discover who are genuine experts and who are unfit or untrustworthy. A judge may, from time to time, hear different experts as witnesses and may learn of their work and reputation from others and so may form a fair estimate of their qualifications; but a jury in the hurry and excitement of a trial, with no previous knowledge of the men and with no disinterested advice, must quickly decide on the merits of the conflicting experts and on the weight to be given them respectively. It is no wonder that they are often deceived. When insanity or a hidden internal injury is feigned by a living party or when the condition or behavior of a dead testator is misrepresented and when some unqualified or dishonest doctor has spun nice theories and given plausible reasons for his side, it is not surprising that a jury, ignorant of his nature and qualifications, may give him more weight than the superior expert of the other side.

Sir James F. Stephen in his *History of the Criminal Law of England* recommends that medical experts of both sides confer with each other before giving their testimony. If they wanted only to bring out the truth, nothing could be better. If a party in any judicial proceeding is to be allowed to summon experts of his own selection, then, to prevent surprise to the other side, he should be compelled to state, before the trial, who his experts are and where they live, and he should also state briefly what is to be the general nature of their testimony. With such notice, the opposite party can be prepared to meet incompetent or untrustworthy men and false or doubtful, but plausible theories. In olden times the courts did not try to prevent a meritorious litigant from being beaten by a mere surprise; but the legislature and the courts now try to prevent such an undeserved overthrow by a surprise. If truth or justice is to be our aim no advantage must be allowed to unnecessary concealments or mere tricks.

It is said that, if a list of eligible men is appointed by the court and if the parties are nevertheless allowed to call their own experts, the parties will continue to select their own experts. Not when it is observed by lawyers (as it will be) that juries will not

give to unaccredited experts, selected and paid by a party for partisan testimony, as much attention or weight as is given to experts long before approved by the court without reference to the controversy on trial. The difference will be made apparent to the jury.

It is said that where communications with a physician are privileged, a party would not consult the physicians on the court's list lest such a communication be held not privileged; but the statute could make them privileged in every case. If the case be clear, the party ought not to complain that all the impartial experts are against him. If it be doubtful, impartial experts will differ.

It is said that no distinction, in selection of the method of compensation, should be made between medical and other experts and yet we are also told (as experience also tells us) that medical experts are needed oftener by far than all other experts put together. Here is a valid reason for a difference of treatment.

For the last session of our Legislature I prepared two bills, one to regulate expert testimony and one to regulate the plea of insanity in criminal cases. The former was prepared and presented at the request of the Kentucky State Bar Association and was approved by the Louisville Bar Association. In the hurry of a session of sixty days neither bill had a fair chance for consideration and neither passed. Some lawyers that make a specialty of criminal cases or damage suits naturally desired a continuance of the old abuses and quietly opposed the bills. The substance of these two bills was published and approved in the August number of the legal *Journal* above cited, as follows:

"Proposed Regulation of Expert Testimony in Kentucky.—A bill to regulate the introduction of expert testimony in the courts of Kentucky was recently prepared by Hon. E. J. McDermott of Louisville, and submitted to the Legislature of that State. The bill was prepared at the request of the State Bar Association and had the approval of the Louisville Bar Association, the president of the State Board of Health and of the State Medical Association. In brief the bill provided that whenever, in any civil or criminal case, expert testimony seemed probably necessary or desirable, the court might require the parties to file a statement showing briefly whether such evidence was to be offered and, if so, showing, in general terms, the nature thereof; and, thereupon, the court might appoint experts to look into the matter and to be prepared to testify, if called by either side or by the court; and if medical experts were needed, the court might

choose from lists furnished by the State Board of Health or the State Medical Association. A reasonable fee for an expert so called should be fixed in each case by the court and be paid by the side calling him. Such expert might not demand or receive any other compensation. Any party to a suit might still call other experts of his own choice, but (to prevent the rich from having an unfair advantage, he might not call more than three experts without permission of the court; and, if the court should have appointed experts, the party intending to call other experts, who might be untrustworthy, professional witnesses, must (to prevent a surprise) file, in a reasonable time, a brief statement showing, in general terms, the nature and tenor of the evidence to be offered and the name and address of the expert to be introduced. Contingent fees, which might create a selfish bias, if not corruption, were forbidden; and an expert not appointed by the court might be required to state what fee had been paid or promised him; and he was forbidden to demand or receive, directly or indirectly, any other or higher compensation.

"A supplementary bill, also prepared by Mr. McDermott and introduced into the Legislature, provided that, if a criminal desired to rely upon insanity as a defense, he must plead it specifically when arraigned and must then be confined in some suitable, safe place where he might be observed and studied by experts appointed by the court for a reasonable time under suitable conditions. The bill also required the jury in such cases to state specifically in their verdict whether they find for the defendant on that plea or not. If acquitted on that plea, he should be confined in a suitable place for a year under the observation of experts to make it reasonably certain that he was at last quite sound and not again likely to be a menace to the community. A severe penalty was provided for any officer who negligently permitted a murderer to escape and for any person that aided him in his escape.

"Both of these bills are in line with the best thought and practice on the subject of expert testimony and insanity procedure, and the principle of the first mentioned, in particular, has been indorsed by the medical and bar associations of a number of States as well as by the criminologists everywhere.

"See, for example, the bill recommended by the New York State Bar Association last year, which made it the duty of the Supreme Court to designate at least ten and not more than sixty physicians in each judicial district from which parties or courts might se-

lect expert witnesses, the same to be paid such fees as the court might fix. American Bar Association Reports, 1909, p. 665.

"The need of such legislation was well stated by Mr. McDermott in the KENTUCKY STATE MEDICAL JOURNAL of September 1, last year. It is to be regretted that neither bill was acceptable to the Legislature to which they were submitted."

Nothing could better illustrate the need of such legislation than the fact that after George B. Warner had been sentenced to be hanged for the murder of Pulaski Leeds, Superintendent of the L. & N. Railroad Company, in 1903 (Warner vs. Commonwealth, 84 Southwestern Rep. 742) Warner escaped the day before the time set for his execution by having a jury summoned to pass upon his sanity and by being adjudged of unsound mind. He was sent to the Asylum and in a short time walked away and was not heard of for several years. Lately he was discovered in the West and was brought back to Kentucky at a great expense to the State, and, after he had pleasantly sojourned there for a short time, he concluded to walk away again and did so and is once more at large and, whether sane or insane, he is a menace to peaceable and innocent men. The case of Thomas Buford who assassinated Judge Elliott for an unfavorable opinion of the Court of Appeals in 1879 was a similar disgrace. These cases show the need of legislation similar to that outlined in the bills mentioned above. In New Jersey we have another illustration of the manner in which the venal experts can be used by rich murderers to save their necks on a flimsy plea of insanity. Charlton murdered his wife in a most brutal manner in Italy and he escaped to New York and was captured on the steamer. He has been put under the examination of experts hired by his family to make out a case of insanity for him and he may not be punished for his crime.

That some reform is imperatively demanded must be clear to every sensible man. Though I am by no means inclined to insist upon the particular bill prepared by me, some bill of that sort should be presented again to the Legislature and should be earnestly and successfully urged by a committee of this Association. Something must be done to give better protection to human life, to create a greater respect for the law and for science, and to prevent ignorant or unscrupulous men in law or medicine from lessening the efficiency and respect of our callings.

COUNTY SOCIETY REPORT

Hardin.—The Hardin County Medical Society convened in regular meeting at the City Hall Nov. 10. The following officers for the ensuing year were elected: President, D. E. McClure, Sonora; Vice-President, J. R. Cowherd, Vine Grove; Secretary and Treasurer, E. J. Strickler, Elizabethtown; Delegate to State Society, J. C. Mobley, Elizabethtown, with H. R. Nusz, of Cecilian, as Alternate; Censor, T. P. Strickler, Elizabethtown. The following resolutions were also adopted:

We, the members of the Hardin County Medical Society, hereby unanimously endorse the action of the State Medical Society in increasing the yearly dues of each member fifty cents, and thereby giving him the benefit of the Defense Branch.

No program having been prepared, the afternoon session was taken up in general discussion, and the society adjourned until next monthly meeting.

E. J. STRICKLER, Secy.-Treas.

Pendleton.—The Pendleton County Medical Society met at the Day House in Falmouth Wednesday, Nov. 9, 1910, with the following members present: John E. Wilson, J. Ed Wilson, N. B. Chipman, H. C. Clark, W. A. McKenney, K. B. Woolery, O. W. Brown, J. F. Daugherty, T. C. Nichols, J. A. Caldwell, P. N. Blackberry, N. A. Jett, A. L. Beckett. The meeting was called to order with President Nichols presiding. After roll call and a reading of the minutes of the previous meeting and their approval, we proceeded to the business of the day. After a full report of clinical cases and their discussion and transacting some new business, we nominated officers to be voted for at our December meeting. N. A. Jett, being the only essayist prepared to read a paper, it was deferred until afternoon, when his paper was read and was freely discussed by all present. We are preparing to have a social day at our December meeting, and all are expecting a pleasant time.

W. A. McKENNEY, Secretary.

Warren.—The regular meeting of the Warren County Medical Society was held in Bowling Green at the Doctors' Club Room, Wednesday, Nov. 16, 1910. The Vice-President, J. H. Blackburn in the chair and the following doctors were present: T. W. Stone, Lewis, Martin, Moss, Drake, Rau, South, Blackburn, H. P. Cartwright.

A committee consisting of U. V. Moss, T. W. Stone, H. P. Cartwright and J. N. McCormack was appointed to draft resolutions regarding the death of Dr. A. C. Wright, to be published in the daily papers and the Journal.

There was a general discussion on the increased dues, each member expressing an appreciation of

the policy to open the Medical Defense to all members.

T. W. Stone read an article on the Diagnostic Significance of Hematuria and Pyuria.

In discussing the etiology he said the three main causes were neoplasms, stones and tuberculosis. Calculi may be diagnosed by means of X-ray. Neoplasms are diagnosed only through symptoms.

Tuberculosis can be diagnosed by staining the specimen of urine. It is often difficult to find out the exact cause of hematuria. The blood may come from the urethra. If the bladder is the cause of trouble, the blood comes last and there is painful urination.

Blood from the kidney is thoroughly mixed with the urine and may be intermittent, and we must always bear in mind that blood in the urine is always a diagnostic symptom worthy of careful study. If it were possible to catheterize the ureters a diagnosis could be made more accurately.

Wherever there is pus there is always a bacterial infection.

U. V. Moss complimented the essayist on his splendid delivery and most excellent paper, and wished to make only one suggestion. In pyuria in the female always use a catheterized specimen.

J. H. Blackburn reported a case of recurrent pus kidney incident to pregnancy.

Six months following the first delivery developed a case of typical typhoid fever so diagnosed. She had no further trouble until two years later, after the delivery of the second child, when an examination of the urine revealed pus and casts. A diagnosis was made of pus kidney. During the third pregnancy there was no pus. On the sixth day after delivery pus and blood appeared in the urine. Chills and fever at intervals. Four months later an operation was performed by Dr. A. T. McCormack and myself and the upper third of the kidney was removed and drainage instituted. There is still a slight serous discharge from the wound.

L. H. South reported a case of pyuria due to an ulcer in the bladder, developing six months after typhoid fever. The urine was loaded with pus and a culture showed the presence of typhoid bacillus. Cystoscopic examination showed an ulcer about one-half inch in diameter. The treatment consisted in boric acid irrigation daily, followed by the injection of 50 per cent argyrol. At the last examination no pus was present, but the urine showed large amount of phosphates. Urotropin gr. 7½ was given every four hours.

There was no further business and the Society adjourned to meet in December.

J. W. Lewis was assigned the subject 606, and literature was supplied him for this interesting subject.

L. H. SOUTH, Secretary.

BOOK REVIEWS.

Hookworm Disease: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment.

By George Dock, A. M., M. D., Professor of the Theory and Practice of Medicine, Medical Department Tulane University of Louisiana, New Orleans, and Charles C. Bass, M. D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, \$2.50. C. V. Mosby Company, St. Louis, Publishers.

The subject is treated quite exhaustively. The history of the disease is first considered briefly, especial attention being given to the mode of infection, diagnosis, symptomatology and treatment. Bass describes his own method of isolating the ova.

W. B. Saunders Company now have going through their presses a three-volume work on Practical Treatment, written by international authorities and edited by those able clinicians, Dr. John H. Musser and Dr. A. O. J. Kelly, both of the University of Pennsylvania.

In looking over the list of contributors we can come to but one conclusion, namely, that this work will undoubtedly take rank as the very best on Treatment extant. The names of the authors carry with them the positive assurance of thoroughness. Indeed, each chapter is a complete monograph, presenting the most recent therapeutic measures in a really practical way.

As the general practitioner is required to know certain therapeutic measures more or less of a surgical nature, leading surgeons have been selected to present such subjects. This is an important feature, and, to our knowledge, not included in any similar work.

In every case the men have been most aptly chosen for their respective tasks, and under the wise editorship of Drs. Mussey and Kelly there has been produced a work on Treatment that will remain for many years the last word—a source of practical information, easily obtained and readily digested.

The work will sell for \$6.00 per volume, in sets only.

Obstetrical Nursing for Nurses and Students.

—By Henry Enos Tuley, A. M., M. D., Professor of Obstetrics, Medical Department University of Louisville; Visiting Obstetrician and Lecturer on Obstetrics to Training School for Nurses, John N. Norton Memorial Infirmary and Louisville City Hospital; Member Sloane Maternity Hospital Alumni; Ex-Secretary and Chairman Section on Diseases of Children, American Medical Association; Secretary Mississippi Valley Medical Association, etc. With seventy-three

illustrations. Second edition, revised and rewritten. John P. Morton & Company, Publishers, Louisville, Ky., 1910. Price, \$1.50.

This volume will prove of great value to the student and general practitioner for the valuable suggestions in nursing and the care and preparation of the patient.

For the nurse it is a comprehensive study of the subject from their viewpoint, and only those subjects are given prominence which pertain to their work.

Psyche: A Concise and Easily Comprehensible Treatise on the Elements of Psychology and Psychiatry, for Students of Medicine and Law—By Dr. Max Talmey, New York. Price, \$2.50 (net) per copy. The Medico-Legal Publishing Company, 55 W. 125th St., New York.

The work is comparatively short, yet so comprehensive as to form a complete textbook of psychiatry with an excellent introduction to the elements of psychology. The following brief excerpt from the large table of contents will give an intimation of the comprehensiveness and the appropriate arrangement of the work. The book consists of five parts:

I. Psychology or Physiology of the Mental Functions.

II. General Pathology of the Mental Functions.

III. Etiology of Insanity.

IV. Prognosis and Therapy of the Psychoses.

V. Special Pathology of Insanity.

An extensive and accurate index facilitates the reading considerably.

Particularly illuminating, and to a great extent original, are the explanations of the fundamental conceptions of the subjects. Special attention is called to the chapters on Sensations, Sense Impressions, Feelings, Morbid Mood, Hallucinations, Delusions, Compulsory Ideas, Idioey and Defective Children, Recurrent Insanity (manis-depressive insanity), etc.

Attractiveness and simplicity of style and many examples, taken from every-day life, to illustrate difficult points, contribute to make the book very interesting and to afford great pleasure to the reader.

Genesis: A Manual for the Instruction of Children in Matters Sexual, for the Use of Parents, Teachers, Physicians and Ministers—By B. S. Talmey, M. D., with 17 cuts, 47 drawings in the text. Price, \$1.50. The Practitioners' Publishing Company, 12 W. 123 St., New York.

The book is written as a manual for the instruction of children in matters of sex. The section is naturally more or less a repetition of what all the other authors have said on this subject. The five lessons in the second, the special part, will be of some service to all classes of instructors. The first two lessons are, in the nature of things, only for parents or guardians.

of infancy and early youth. The two following lessons may be made use of by cultured parents, but they were written mostly as a guide for teachers. It is not the author's intention to give teachers. It is not the author's intention to give presupposed that teachers possess the proper knowledge of natural history. But they do need a hint in their choice of that part of this science which will best serve the particular purpose. The fifth lesson will be of value to the physician in his talks to the growing boys and girls when going out into the world, and to the minister of the gospel while preparing the children for confirmation.

Nephrocolptosis: A Description of the Nephrocolic Ligament and Its Action in the Causation of Nephroptosis, With the Technic of Operation of Nephrocolopexy, in Which the Nephrocolic Ligament is Rutilized to Immobilize Both Kidney and Bowel.—By H. W. Longyear, M. D., Professor of Gynecology and Abdominal Surgery, Detroit Post-Graduate School; Clinical Professor of Gynecology, Detroit College of Medicine; Gynecologist to Harper Hospital; Consulting Obstetrician to the Woman's Hospital. With 88 special illustrations and colored frontispiece. Price, \$3.00. C. V. Mosby Company, Publishers, St. Louis, Mo.

The Practical Medicine Series: Comprising Ten Volumes on the Year's Progress in Medicine and Surgery.—Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, Ill., and J. H. Salisbury, A. M., M. D., Professor of Medicine, Chicago Clinical School. The Year Book, Publishers, 40 Dearborn St., Chicago, Ill. Vol. I, II, III, IV, V, Price \$1.50 per volume, on \$10.00 for the series of ten volumes.

These series of books is published primarily for the general practitioner, at the same time arrangement in several volumes enables those interested in special subjects to buy only the parts they desire. The first volume is devoted to Dis-

eases of the Respiratory and Circulatory Organs, Blood and Infectious Diseases.

The third volume treats of the Eye, Ear, Nose and Throat, by Wood & Andrews and Head.

The fifth volume has been edited by J. B. DeLu, A. M., M. D., and Herbert M. Stone, M. D., and is devoted exclusively to Obstetrics and Care of the Newborn.

The fourth volume is edited by E. C. Dudley and C. von Bachellet, and contains the general principles of Gynecology.

Symptomatic and Regional Therapeutics.—By George Howard Roxie, A. M., M. D., Professor of Internal Medicine and the Clinical Department in the School of Medicine of the University of Kansas; Member of the American Academy of Medicine, American Medical Association, etc. With 58 illustrations in text. D. Appleton & Company, Publishers, New York and London.

The first part of this volume is devoted to a consideration of symptoms and their relief, and the relations of symptoms to pathological processes.

The second part is devoted to regional therapeutics, diseases that affect the different regions of the body are described and the drug treatment given in detail.

The appendix contains a list of all the drugs referred to with their proper doses.

Gynecological Diagnosis.—By Walter L. Burrage, A. M., M. D., Fellow of the Obstetrical Society of Boston; Consulting Gynecologist to St. Elizabeth's Hospital; formerly visiting Gynecologist to St. Elizabeth's and the Carney Hospitals; Electro-Therapeutist and Surgeon to Out-Patients, Free Hospital for Women; Clinical Instructor in Gynecology, Harvard University and Instructor in Operative Gynecology in the Boston Polyclinic. With 207 text illustrations. New York and London, D. Appleton & Company, 1910.

This book is designed to assist the general practitioner in making a diagnosis in cases of uterine diseases that form so large a part of the general practitioner's work.

Photographs of the positions used in the examination, taken from actual patients ready for examination, are reproduced in the cuts which accompany the text describing these procedures. The symptoms of uterine disease receive exhaustive treatment in Chapter X (pages 127

to 161) and the probable diagnosis is sketched from the symptoms.

The chapter on diseases of pregnancy, both normal and abnormal, including in the latter abortion and hydatidiform mole (extra-uterine pregnancy having a separate chapter to itself), is an extremely important one for the practitioner, because of the many mistakes that are made in this field. The ground has been thoroughly gone over and the subject presented in all its practical phases.

The illustrations—215 in number—have been prepared with great care to make plainer the text. To this end they are placed as near as possible to the printed matter which they explain. Not only that, but in case, as often happens, a figure illustrates several points, a definite page reference to the missing situation.

Confidences: Talks with a Young Girl Concerning Herself.—By Edith Loury, M. D. Neatly bound in cloth, 16-mo. Price, postpaid, 50 cents. Forbes & Company, 325 Dearborn St., Chicago, Ill.

This work has been written in response to a great demand for a book telling the story of the origin and development of life in language intelligible to young girls. The author, who is a physician of wide experience and a pleasing writer, has very delicately and adequately treated this important subject. The future health and happiness of every girl demands that she receive when approaching adolescence an intelligent presentation of the vital life processes, and this book will be invaluable aid to parents and teachers in attaining that object.

The Parathyroids in Connection with Sudden Death.—Grosser and Betke state that when no other explanation for the sudden death of a child can be discovered, the parathyroids should be examined with the microscope. It may be possible to discover in them traces of a destructive process involving the larger part of their substance and this alone is sufficient to account for the fatality, as he shows by reports of three cases and a case previously reported by Yanase. The children were only two or three months old and death occurred suddenly in apparent health except for a mild bronchitis in one case. Aside from the destructive process in the parathyroids, the necropsy findings were normal.

Tuberculin Treatment of Children.—Gouraud concludes from his experience that tuberculin may render great service in treatment of tuberculous children, but that the best results may be anticipated in the serofulous, the children with enlarged glands, in those with inherited taint, and in those with tuberculosis of the bones or glands. He declares that tuberculin should be absolutely rejected when there is any involvement of the lung. The technic should be about the same as for adults except that the doses may be increased more rapidly; frequent intermissions are of advantage. The benefit is most apparent in the weight and general development; the local processes show the benefit more slowly.

Diagnosis of Epidemic Meningitis.—Levy emphasizes the importance of bacteriologic examination of the cerebrospinal fluid obtained by lumbar puncture. The naked-eye aspect is frequently misleading; the fluid may be turbid with tuberculous meningitis and only slightly turbid with the epidemic form or even quite limpid in chronic cases. In case of doubt an injection of antiserum is always advisable. After the hydrocephalus is once established, treatment is powerless. This confirms the importance of puncturing at once on suspicion of hydrocephalus. The meningococci may vanish early from the fluid. They may be found in the spinal fluid and be absent in the fluid in the ventricle, the communication between the different cavities being so often obstructed. In one case the cocci were destroyed in one lateral ventricle by injection of serum, although they persisted unmodified in the other.

Chronic Dilatation of the Large Intestine in the Elderly.—Erkes reports a case of chronic dilatation of the large intestine in a man of 71. It had apparently caused no disturbances except for a tendency to constipation and protruding belly. Pain suddenly developed in the abdomen with signs of obstruction. A similar attack a year before had subsided under a purge and rest in bed, but this time the patient suddenly collapsed and died. Necropsy revealed the entire large intestine enormously distended. Verse has recently reported two similar cases in men of 65 and 72; the left lobe of the liver in the latter case had atrophied from the effect of pressure from the dilated colon.

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HEART-BLOCK.

By FRITZ C. ASKENSTEDT, LOUISVILLE.

By heart-block is meant a condition in which the conductivity of the heart tissue is depressed to such an extent that the impulse causing the heart to beat is blocked on its way from one part of the heart to another. We will here consider only auriculo-ventricular block, which is undoubtedly the one most frequently occurring, and the only one, so far, capable of clinical demonstration. The rhythmic contractions of the heart having their origin at the mouth of the large veins and traveling downward, the most frequent seat of heart-block will be found in the auriculo-ventricular septum, where only a narrow bridge of muscular tissue—the bundle of His—exists to functionally unite the two chambers of the heart. That this septum proves a natural barrier to the conduction of the im-

pulse will be understood from the brief normal interval occurring between the contraction of the auricle and that of the ventricle. Any further narrowing of this connecting bridge by disease will produce a proportionate delay or arrest of the impulse, and hence heart-block has been considered clinically as partial and complete. The apparent effect of this narrowing is a reduction, through increased resistance, of the force of the traveling impulses, and these impulses may be so weakened when arriving at their ventricular destination as to be incapable of uniformly exciting muscular contractions, so that an intermittency of the ventricular action, or partial heart-block, may result. When the bundle of His becomes completely interrupted in its continuity, the auricular impulses are no longer transmitted to the ventricles, which now assume a rhythm of their own, entirely independent of the auricles, and symptoms of complete heart-block are produced.



FIG 1.—Normal jugular and radial tracings. *a*—auricular wave in jugular vein, produced by the accumulation of blood in the vein during contraction of the right auricle. *c*—Carotid wave, produced by distention of the carotid artery during contraction of left ventricle. *v*—Ventricular wave, due to obstruction of the flow in the jugular vein offered by the closed tricuspid valve during systole of right ventricle. Note the short distance between the auricle and carotid waves, the so-called *a-c* interval.

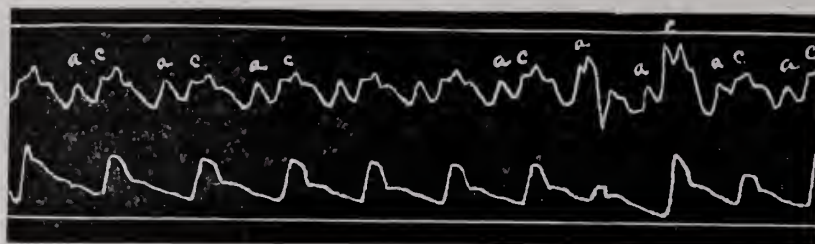


FIG. 11.—(From a case of myocarditis). Note the relatively longer *a-c* interval, which lengthening is caused by obstruction to the impulse of contraction traveling from the auricle to the ventricles, and resulting in a delayed ventricular systole—the first step toward heart-block. At *v*, a premature contraction of the ventricles, from an abnormal impulse, is observed (ventricular extrasystole); and this coincides with the normal contraction of the auricles, so that regurgitation into the veins is shown at *r*.

The omissions of ventricular contractions in partial heart-block usually occur with a certain regularity—every eighth, ninth or tenth beat—or the ratio of auricular to ventricular contractions may be as 2 to 1, 3 to 1, or 4 to 1. To account for this, Erlanger (1) offers the following explanation: "The resting heart tissue stores within itself an unstable energy-yielding material, the instability of which increases as it accumulates. A stimulus strong enough to elicit a contraction does so by decomposing all of this material. The instability of the heart tissue, it may be assumed, depends upon the amount of the unstable substance present in it at any one time. Immediately after the heart has contracted, it therefore contains none of the unstable substance; consequently, it is non-irritable. But after the heart has completed its contraction the material begins to accumulate, rapidly at first, and then more and more slowly; the irritability, when it returns, therefore increases rapidly at first, but finally becomes more or less constant. Or, stated in another way, shortly after the completion of a contraction, a stimulus to be efficient must be relatively strong, but as time passes a relatively weaker stimulus becomes effective. Indeed, what has been termed the inner stimulus may, in case the heart tissue is not otherwise disturbed, become efficient and cause the heart to beat spontaneously. It is justifiable to assume, further, that the strength of the impulse starting in any part of the heart depends upon the amount of the unstable material decomposed by the contraction associated with it. In other words, the strength of the impulse in general varies with the interval between contractions. Finally, the latent period of contraction of heart tissue varies inversely as the strength of the stimulus producing the contraction, and inversely as the irritability of the heart tissue. That is to say, a relatively strong stimulus produces a contraction with a short latent period,

while in the case of a stimulus of a given strength acting upon a more or less irritable tissue, the resulting contraction will, in the former case, have a short latent period, in the latter, a long latent period."

Clinically, heart-block is not infrequently met with. It comes from a constriction of the bundle of His by scar formation, the result of local inflammation, or an infarct due to an obstruction to the supplying branch of the coronary artery, which, like the lenticulo-striate artery of the brain, is especially prone to arterio-sclerotic degeneration. Syphilis, rheumatism, especially muscular rheumatism, are prolific causes of heart-block by producing localized infiltrations of formative cells resulting in connective tissue proliferation. It may also, though rarely, result from acute fevers, such as acute articular rheumatism, influenza, septic poisoning and puerperal fever. Moreover, a temporary state of heart-block has been produced by such poisons as muscarin and digitalis, through their action on the pneumogastric nerve.

Partial heart-block may be suspected where the pulse is intermittent, but as this may also occur under various nervous influences, the recognition of partial heart-block is difficult without polygraphic tracings. These tracings will show an increased *v-a* interval in purely functional irregularity, while heart-block will manifest an increased *a-c* interval, and an increase in the number of auricular over ventricular contractions. A visible jugular pulsation of normal or increased rapidity, with a slower carotid or radial pulse is, of course, suggestive of heart-block, but such a condition can seldom be determined by the unaided senses.

In complete heart-block, however, the symptom complex is so characteristic as usually to render a diagnosis easy. A permanent pulse rate of about 30, regular and not materially influenced by stimulants or exercise, developed in a patient over 40, is indicative of com-

plete heart-block. The patient will complain of a sense of weariness and lassitude, of marked shortness of breath on exercise, and Cheyne-Stokes breathing has been observed in some cases. He generally gives a history of several attacks of the Stokes-Adams syndrome. This consists essentially of a sudden drop in the pulse-rate, which may become as low as 5 per minute, with attendant anemia of brain giving rise to vertigo, fainting, and sometimes complete unconsciousness, and occasionally epileptic aura or mild spasms. Several of these seizures may be experienced in one day. The occurrence of these attacks is most frequent before the establishment of complete block, and they probably correspond to the sudden temporary arrest of ventricular action following immediately upon experimental sectioning of the bundle of His at the auriculo-ventricular septum. After the ventricles have become accustomed to their own independent rhythm, Stokes-Adams attacks are seldom observed.

The following two cases will serve to illustrate the symptomatology and course of complete heart-block:

Mr. X, aged 79. A man who has always been of exemplary moral habits, but had lived a strenuous business life. While serving in the Civil war he had had an attack of muscular rheumatism which, however, did not confine him to bed. About 15 years ago he suffered an attack of pneumonia. Had otherwise been enjoying unusually good health. In September, 1903, while at work in his store, and feeling quite well that morning, he was suddenly seized with vertigo and fell to the floor unconscious. His mind was a blank for the space of about half an hour, and on recovering he experienced an overwhelming sense of weakness. His pulse-rate, which a few months before was 72 and regular, was never over 40 after this attack. The heart was found enlarged to the left, a systolic mitral murmur was present, the pulse intermittent and irregular, while the radial and temporal arteries were hard but not "pipestem." The patient

was thereafter confined to bed, and six weeks later a severe attack of prostatitis set in, causing retention of urine and agonizing pains. In the following November he was able to leave his bed and move about his home. December 1, while sitting quietly in a chair, he was suddenly taken with another Stokes-Adams attack, leaving him unconscious for some minutes. He remained in bed and a few weeks later developed a hypostatic pneumonia, from which he made a good recovery. Three years ago he contracted influenza, running a temperature of 102 degrees and over, but no other serious symptoms attended. Since the first evidence of heart-block the patient has abandoned all business cares, and is now leading a quiet existence with but little physical discomfort. He states that his most marked symptoms are weakness and shortness of breath upon any exertion beyond a slow walk, and transitory dizziness upon sudden movements. After retiring at night there is often a slight cough. He never suffers any cardiac pains, shows no tendency to dropsy, and Cheyne-Stokes breathing has never been observed. In 24 hours he excretes about 50 ounces of clear urine, free from albumin. His pulse is 34 and regular, not influenced by position or slow walking. Systolic tension in right arm is 220 m. m. diastolic, 150; in left arm, 200 and 140. The cause of this difference exhibited by the arms is obscure, as there is no apparent dilatation of the arch of the aorta. There is a moderate enlargement of the relative heart dulness to the left, none to the right. The apex beat is neither visible nor distinctly palpable; a slight epigastric pulsation may be seen. There is a soft systolic murmur in the mitral region, but the second aortic sound is more marked than the pulmonary, due to the high tension in the general circulation. The polygram shows complete heart-block, the auricles and the ventricles being entirely independent in their actions, the ratio of the auricular contractions to those of the ventricles being as 8 to 5.

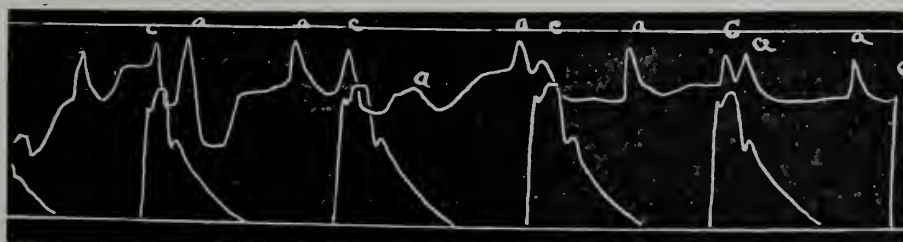


FIG. III.—Case 1. Complete heart-block. Rythm 8 to 5, as indicated by the relative frequency of the auricular and carotid waves. Radial pulse 34.

Mr. P., who is now before you, is 67 years of age. Occupation, formerly brass-worker. His height is 5 feet 3 inches; weight, 138 pounds. Had malarial fever when a young man at 32. Fifteen years ago he contracted appendicitis, from which he recovered without operation. Otherwise has been in good health. Present trouble dates back to three years ago, when, while sitting in a chair, he felt a pain in the epigastrium and, becoming dizzy, he fell to the floor in a faint, remaining unconscious for a few minutes. After regaining consciousness, he felt as though the heart had stopped beating, and was unable to detect a pulse. Soon, however, his fingers began to tingle and he could then count his pulse beating 18 to 20 times a minute. From that day until July, 1909, when he had his last spell, he suffered about 10 or 12 similar attacks of syncope, and since that time his bradycardia has been permanent. March 3 of this year he came to the college clinic for treatment. His pulse was then 28, sitting, and 25, standing. His systolic tension showed the surprising height of 275 m. m., diastolic, 190, taken with both the Stanton and the Riva Rocci instruments. Respiration was 16, free from Cheyne-Stokes curves. He complained of dyspnea on least exertion, but had no difficulty in assuming the horizontal position. At times he would have momentary dizziness and, occasionally, sharp pains around the heart and in the epigastric region, especially when moving. May 12 his systolic tension had dropped to 245; his pulse-rate was 26. From this time until the present there has been an

almost uninterrupted decline in systolic and diastolic tensions, the diastolic running from 40 to 60 m. m. less, and his pulse has varied from 22 to 25, not being perceptibly influenced by either a standing or recumbent position. Respiration has been 22 to 24, with a slight tendency to increase when the patient has been placed horizontally. The cardiac pains and the dizziness have left him, and even the dyspnea on exertion is less marked. A recent physical examination revealed the following condition:

Apex beat plainly visible and palpable, diffused in the fourth and fifth interspaces, with center under nipple, 4 inches from mid-sternum. A scarcely perceptible epigastric pulsation was observed. Relative dullness extended 4 inches to the left of mid-sternum, and 1½ inches to the right. Absolute dullness extended 2½ inches to the left. The apparent long diameter of the heart, as described by Lewis Conner (2), measured 5¾ inches. Relative dullness over the arch of the aorta was but slightly increased. A systolic mitral murmur was heard, and also a systolic aortic murmur, most clearly defined at the right border of the sternum in the first interspace. The pulse was 23. The radial and brachial arteries felt hard but not calcareous. Systolic tension, 185 m. m. Respiration 22, while respiratory expansion on forced breathing did not exceed 1½ inches. His urine, passed in 24 hours, measured 900 c. c., was free from albumin, and reaction for indican was negative. Polygraphic tracings showed complete heart-block, with an auriculo-ventricular ratio of 17 to 7, the action of the auricle being slightly irregular.

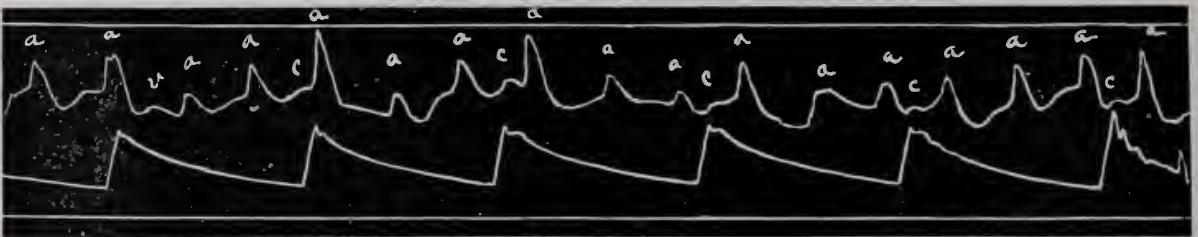


FIG. IV.—Case 2. Complete heart block. Rythm 17 to 7. Pulse 26.

The prognosis of heart-block is exceedingly uncertain. It depends largely upon the liability to recurrences of the Stokes-Adams seizures, which are always of very grave import. The complete arrest of the ventricles in these attacks is not uncommon. On the other hand, cases of complete block may enjoy a quiet life for many years. Keith reports a case that presented a history of complete heart-block for eighteen years. The first case reported in this paper illustrates how these patients may safely pass through serious illness with or

without fever. Mackenzie mentions a case of extreme heart-block which was under full chloroform anesthesia for an hour without untoward symptoms. The removal of heart-block and the restoration of the normal function of the heart rhythm is quite possible in a limited number of cases.

The treatment of these cases should consist mainly in directing the mode of life and habits of the patients. Over-exertion, both mental and physical, must be avoided, the diet should be selected to suit individual require-

ments, and when Stokes-Adams attacks occur, care should be taken to prevent injuries from falling. In syphilitic cases, anti-syphilitic treatment will not infrequently effect a cure. The habit of some physicians to administer material doses of digitalis in all cases of heart disease might prove most disastrous in these cases. Various clinicians have observed an unfavorable influence of digitalis in myocarditis, sudden heart failure occasionally being attributed to its use. Mackenzie has demonstrated that digitalis increases the *a-c* interval and frequently induces heart-block, and he concludes that, in such a condition, digitalis is positively contraindicated. Speaking again of the administration of digitalis, he says: (3) "I have rarely failed in such cases in increasing the *a-c* interval and causing the dropping out of ventricular systoles by the administration of digitalis, and the recognition of this form of irregularity produced by digitalis, is of importance, for digitalis should never be pushed further. One reads accounts of sudden death during or after the digitalis has slowed the pulse, and it has seemed to me that the immediate cause might be the production of severe heart-block and consequent syncope." Hinchard, in a paper on arrhythmia and tachycardia (4), mentions a gradually forming arrhythmia usually not observed by the patient until an acute attack of illness sets in, and which arrhythmia is not amenable to digitalis, but rather aggravated thereby. He has seen death follow the administration of even a small dose. In all probability these cases referred to by the great Frenchman have been cases of partial heart-block. Since the isolated ventricles are not so susceptible to medication as their former pace-makers, the auricles, little or no benefit can be derived from heart stimulants. Babcock (5) makes this statement regarding the treatment of Stokes-Adams paroxysm: "Theoretically, diffusible stimulants, as ammonia, camphor, ether injections, etc., ought to be of benefit by arousing the heart to more rapid action. I found them of no avail in the case under my observation. For the same reason, and because it acts as a vasodilator, nitroglycerin thrown under the skin ought to mitigate an attack, but in my hands this remedy has utterly failed. It may be used, however, and should be given several times if no effect is observed to follow the first injection."

Desiring to put a few of these heart stimulants to the test, I gave to my patient now presented, for experimental purposes only, one-fiftieth gr. of nitroglycerin by the mouth. In half an hour the systolic tension, which just before the nitroglycerin was administered had registered 245, went down to 225—a fall of 20 m. m.—while the pulse dropped

from 26 to 24½. He complained of some vertigo following the administration of the drug.

A month later the experiment was repeated. Previous to giving the medicine his pulse was 23, and not influenced by position. Systolic tension was 205 and polygraphic tracings showed an auriculo-ventricular ratio of 23 to 9. Twenty-three minutes after he had taken one-fiftieth gr. of nitroglycerin the pulse rate was found unchanged, but the systolic tension was reduced to 180 m. m. His sensation was that of throbbing in those parts of the back which bore his weight while lying, but the sensation disappeared when sitting. The polygrams, taken a few minutes later, showed no influence of the drug on the ratio or character of the pulse-waves.

After another month had passed I decided to try 10 grs. ammonium carbonate, which was also given by mouth. Before this administration his pulse-rate was 24, the systolic tension 210, and the auriculo-ventricular ratio 88 to 29. Twenty-three minutes later his pulse was found 22, and the systolic tension, taken 36 minutes after the ingestion of the drug, was unaltered. Polygrams, taken from 43 to 58 minutes from the time of the medication, showed practically the same ratio as before, or 36 to 13. At the end of one hour the pulse-rate was still 22, but the systolic tension was reduced to 205, a fall of 5 m. m.

These experiments seem, therefore, to corroborate the opinion that heart stimulants are valueless in heart-block, and that the virtue of nitroglycerin lies only in its power to reduce high tension through capillary dilatation. As this action upon the capillary circulation is known to be of but very brief duration, its use can be expedient only in an emergency, such as Stokes-Adams seizure.

The object of the treatment should be to improve, as far as possible, the nutrition of the heart. The regulation of the life and habits of the patient has already been referred to, and the question arises, Can medicine accomplish anything more?

Weigert (6) has long since called attention to the fact that in the process of repair the tissues always manifest a tendency to exceed the absolute requirements for the restitution of structure, and this fact has been so amply demonstrated that I need only to refer to it. It has a general application to the damage produced by all poisons, whether vegetable, animal or mineral. This excess of reactive response is demonstrated, not only by the production of anti-toxic bodies in the blood, but by an increase of the blood corpuscles following frequent mild hemorrhages, the redness and warmth produced by brief applications of cold, the well-known reactions observed after inoculating a tubercular patient with a trace of tuberculin, the toleration

produced by continued use of tobacco, morphine, arsenic, etc. That this reaction possesses a certain latitude of action is shown by the immunity to scorpion poison resulting from inoculations with snake poison, the action of precipitins on the sera of biologically related animals, etc. Might we not in some similar way help the heart to lift the burden of cellular intoxication always present in arteriosclerosis? Janeway (7) simply expresses accepted facts when he states that the digitalis series clearly exert a direct chemical effect on the heart muscle itself, and indirect effect by vagus stimulation and vaso-motor constriction. As has already been mentioned, Mackenzie has observed an increased *a-c* interval as a result of the administration of digitalis. It seems to me, therefore, in line with medical advance to attempt an improvement of the nutrition of the heart in auriculo-ventricular heart-block through the cellular reaction elicited by the administration of small doses of digitalis, the remedy having a direct affinity for the very tissues most involved. In accordance with this principle, I have prescribed for the two cases reported mainly digitalis, in doses of one-tenth of a drop of the tincture, or less, varying it at times with phosphorus in similar dilution; and, if the value of a treatment is to be judged by its results, this therapeutic principle seems correct.

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DISCUSSION. *

J. Rowan Morrison: I wish to thank Dr. Askenstedt very heartily for his most excellent paper. From a medical standpoint I think it is one of the best papers we have heard here for a long time.

As far as typical cases of complete heart-block are concerned, most of us, unless we are doing a large clinical practice, do not see many such cases. The polygraph tracings presented are very interesting as showing incomplete heart-block and the effect of nervous influences upon the *a-c* and *a-v* waves. It is necessary to study the inner physiology of the heart before we can understand this thoroughly. When we have done that, we can obtain some very valuable information from these polygrams, especially in regard to the action of digitalis. A great many of us use this drug constantly, over a long period of time, and partial heart-block is produced, al-

though, as Dr. Askenstedt has said, there are cases reported in which digitalis has been given with apparently beneficial effects. One plan is advocated, which I think is a very good one; that is, giving the digitalis in large doses until a series of about 16 doses have been given, then stopping it for a day or two, and then starting on another series. In that way the symptoms usually produced by digitalis are prevented.

In the study of this subject, the electrocardiogram gives very much prettier results than the polygram. While at John Hopkins last spring I saw their electro-cardiograph and it shows beautifully the blocking of the impulses from the auricle to the ventricle.

MOVABLE KIDNEY.

By IRVIN ABELL, LOUISVILLE.

In presenting the subject of movable kidney, it is not the intention of the writer to enter into a discussion of the etiology, but to limit himself to a brief resume of the anatomical facts connected therewith and to an attempt to satisfactorily classify its different aspects from a clinical standpoint with their therapeutic indications. The subject matter will be restricted to the acquired type, rather than to the congenital condition known as floating kidney. The kidneys are situated in the paravertebral recesses; these in the male are deep and of a funnel-shape, the apex of the funnel pointing downward; whilst in the female they are shallow and more or less cylindrical. The parenchyma of the organ is closely invested with a fibrous tunic, its fascia or capsula propria; this in turn is surrounded by areolar tissue, in which is embedded much or little fat constituting the capsula adiposa. In this structure bands of connective tissue are found passing from the fascia propria to the colon and have been called by various observers inguinal striae, Longyear's ligament, the nephro-colic ligament, lastly, the perineal fat or capsula adiposa is enclosed between layers, anterior and posterior, of the lumbar fascia. These layers unite above and on either side of perineal fat, forming the capsula renalis. They fail to unite below, leaving an opening into or through which the organ passes, in the condition known as movable kidney. The investment of the capsula renalis is such that abnormal motion is permitted in but one direction, downward and inward. From this capsula renalis bands pass to the hepatic flexure of the colon and from here through the great omentum to the pyloric extremity of the stomach. It is also closely connected by similar band with the convexity of the duodenum. These fascial connections serve to explain the association of the stomach crises with nephroptosis in the absence of gastro and enteroptosis, as well as the occa-

sionally observed bile tract disturbance, with or without jaundice noted therewith. Such anatomical arrangement permits of an up and down motion, the normal excursion varying between one and three inches with inspiration and expiration, the right kidney being an inch or less lower than the left. By common consent, three degrees of anatomical mobility have been established. - In the first, the lower pole, and in the second, the body of the kidney can be felt between the examining fingers, whilst in the third degree, the kidney can be dislocated downward sufficiently far to permit of the examining fingers coming together above the upper pole. That the interpretation of abnormal mobility varies widely is shown by the estimates of its frequency, these varying from one and a half to six per cent in men and from ten to ninety-four per cent in women. With such marked discrepancy in views regarding its frequency, one is prepared for the wide divergence of opinions concerning the indications for, and value of, the respective treatments suggested. It seems now that sufficient time has elapsed to permit of judging the effects of treatment of the various pathological conditions presented in association with the renal mobility and of the application of the treatment best suited for each type. A modification of the classification suggested by Keyes seems to the writer to satisfactorily separate such cases from a clinical and therapeutic standpoint.

The first class comprises patients with palpable kidneys either alone or associated with an enteroptosis of mild degree and in whom such prolapse is not productive of discomfort. Such conditions do not call for treatment.

The second class embraces patients with a renal ptosis of first or second degree in whom there are no symptoms directly referable to the kidney, but in whom a well-marked neurasthenia exists. These are the patients who have symptoms referable to the digestive tract, indeterminate pains and aches in various localities, but none in the kidney until her examiner, in an unguarded moment, calls her attention to it, and forever afterward the kidney becomes the object of her solicitude and attention. In the absence of definite symptoms directly referable to the kidney, the writer believes that operative procedures looking to its anchorage are contraindicated, and that treatment should consist in intelligently directed medical and hygienic measures.

We may place in a fourth class those patients presenting, in addition to prolapse of one or both kidneys, a general enteroptosis or splanchnoptosis. Such patients, as a rule, are markedly neurasthenic, and owing to dilatation and misplacement of the abdominal viscera, often suffer from severe auto-intox-

ication. The abdominal wall frequently shows the same looseness and relaxation that characterizes the structures it is in part designed to support. In such cases the advisability of anchoring the kidney or kidneys will depend upon the extent of dislocation and the presence of symptoms directly referable to it. In the presence of such symptoms, the binder or corset, by increasing intra-abdominal pressure, used in combination with general measures, fulfill the indications. If, however, the dislocation of the kidney is of sufficient degree to permit kinking of the ureter, giving rise to intermittent hydro-nephrosis, or the traction on the renal pedicle produces an uncomfortable tugging sensation or pain with or without an appreciable mass in the abdomen, it is but reasonable to give the patient the relief from local symptoms afforded by renal fixation. It is not uncommon in such cases to see a diminution of neurasthenic symptoms following such an operation, with the result that the patient is made more comfortable.

A careful study of all the cases of movable kidney with associated neurasthenia should be made by subjecting them to operation. It is this class in which indiscriminate and ill-advised operating has brought the procedure into disrepute.

Bazet, quoted by Kemp (*Am. J. of U.*, 1906), says: "There are patients—they are mostly women—in whom the floating kidney is but a part of a complex condition, where enteroptosis and neurasthenia appear to play the principal role. Here all the viscera are altered in their suspension, and these patients are nervous in the proper meaning of the word. When in such cases nephropexy is performed, there is absolutely no therapeutic benefit."

Israel, of Berlin, at the International Congress was Moscow, in 1897 (quoted by the same authority), said: "Careful observation made on a great number of cases has convinced me that the operation of nephropexy is often superfluous and irrational, because the many symptoms which are attributed to movable kidney—a very common occurrence—are, in only a *small number of cases*, really related to this displacement; these symptoms are caused mostly by enteroptosis, or neurasthenia or affections of the generative system."

Joseph A. Blake, in an article read before the joint session of the American Surgical and the American Gynecological Society, May 5, 1910, very truthfully says that in recommending an abdominal operation to relieve neurasthenia, the following four conditions must be satisfied:

1. That there is a definite morbid or mechanical perversion of the normal condition of the viscera.
2. That is the chief underlying cause of

the neurasthenic state.

3. That the neurasthenic condition cannot be cured without its correction.

4. That it can be corrected by a definite operative procedure of only moderate danger to life.

Finally, in a fifth class, may be placed those patients with movable kidney producing symptoms directly referable to the dislocated organ and unassociated with ptosis of other abdominal viscera. In those of mild degree a properly adjusted corset or binder with measure directed to increasing nutrition will often effect a cure. In those in which the displaced organ comes entirely below the anterior costal margin, such measures are of no value. In some instances they may produce an amelioration of symptoms, but lasting and comfortable replacement can be secured only by operation. I have repeatedly seen hydro-nephrosis due to such mobility and have twice seen the displacement so marked that the kidney rested on or below the pelvic brim, being felt upon vaginal examination. Time does not permit of a complete enumeration of all the symptoms and all the pathological changes which have been ascribed to renal mobility. Dilatation of the stomach, kinking of the vena cava, producing a condition simulating aneurysm, diseases of the generative organs, neurasthenic abdominal disturbances referable to every organ in the abdomen except the kidney, are some of the conditions about which Rose, quoted by Kemp, says: "Studying the history of medicine, or the history of religion, we see nothing is too paradoxical to find believers, at least for a time. The importance which at present is attributed to floating kidney is one of those aberrations of men of science of which we find example enough in history. It is surprising to find how much learning has sometimes been employed by serious men to support a theory which appears in a later period to be unscientific."

The symptoms upon which we should depend are those directly traceable to the prolapsed kidney—unilateral backache, sense of weight at point corresponding to the point of ptosis, tugging sensation in renal region, tenderness and pain upon pressure in the prolapsed organ, intermitted hydronephrosis with or without the associated symptoms of frequent urination, jaundice due to traction on common duct through the fibres attached to the duodenum, tenderness over the ascending colon, chronic appendicitis, pointed out by Edebohl, and the many, many reflex pains which have been attributed to the abnormal mobility. Resultant complications in the nature of pyelonephritis, due to alteration in circulation, anchorage in a false position by inflammatory adhesions, permanent kinks of the ureter, due to adhesions, twisted renal ped-

icle with or without strangulation, hydro and pyo-nephrosis are at times noted in connection with marked displacements.

In our selection of a means to retain the kidney in an approximately normal position it is well to bear in mind the normal supports of the kidney, viz: its fascial envelopes, fatty capsule and intra-abdominal pressure. Kidney pads, trusses or other appliances that increase pressure in the mid zone of the abdomen do more harm than good, since if the kidney slips below this pressure zone its already altered circulation is seriously compromised. The appliances giving greatest comfort are those made of inelastic material which make pressure from below upward, forcing the omentum and intestines upward where they mechanically support the kidney. The correctness of this idea is demonstrated by the relief from symptoms noted during advanced pregnancy, the increased abdominal pressure and the enlarging uterus preventing the downward displacement of the kidney. In displacements of the first and second degree the application of such a bandage is productive of the greatest comfort and in the opinion of the writer should be tried in all such cases, since by increasing nutrition and encouraging a deposition of fat in the abdomen to increase the pressure therein, a symptomatic if not anatomic cure may result. In the event of failure to attain such a result the patient may decide between the continued wearing of such support and nephropexy. In prolapse of the third degree security and comfort can be attained by operation only, and we should advise its acceptance in all cases where such a procedure is not contra-indicated by other conditions or lesions. Such an operation should not only overcome the renal mobility, but should replace the kidney in its normal position while preserving its parenchyma from damage. If anchored lower than normal the mobility is overcome, it is true, but circulatory disturbance and inefficient ureteral drainage may cause it to be a source of continued discomfort. The operation which the writer has employed with satisfactory results is made through a lumbar incision. After incising the fatty capsule, the kidney is freed and, if possible, delivered into the wound. A sufficient amount of the fatty capsule is cut away to prevent it interfering with accurate coaptation of kidney to muscle and fascia. The fascia propria is incised over the lower two-thirds of the kidney convexity and separated until a good scroll edge for the retention of sutures is obtained. Two or three of these are inserted through each scroll, the kidney returned to its fossa, the upper pole pushed up under the rib, the retention sutures threaded and carried into muscle and fascia and tied. The remainder of the fatty capsule

is then sutured into the lower angle of wound below the kidney and the wound closed by tier sutures. Catgut is used for suture material throughout. It is my practice to keep such patients in the recumbent position for three weeks and to have them wear a snugly-fitting supporter for three months after leaving the hospital. In an experience embracing more than twenty nephropexies I know of but one relapse, that being due to wound infection.

DISCUSSION.

A. M. Vance: Dr. Abell has given us one of the most complete resumes of the subject that I have ever heard, and I agree fully with everything he has said. I believe that the best mechanical contrivance in this condition is a properly built corset. I have done comparatively few fixations. The difficulty I have experienced has been due to the friable nature of the organ, giving very little to sew to.

J. Rowan Morrison: In cases of the first and second degrees, I have been able to obtain very excellent results from a well-fitting corset. The application of adhesive plaster helps these cases sometimes. In cases of the fourth degree, with general ptosis, I have seen two women operated upon without any relief whatever. I believe the best thing to do in such cases is to treat the neurasthenic condition and relieve the general ptosis by a properly fitting corset and binding.

Henry E. Tuley: Just a word in regard to the properly fitting corset. A properly fitting corset is useless unless it is properly applied. We should specify the straight-front corset and direct that it be applied with the patient in the recumbent position. I think the best results are to be obtained in this way, especially in cases of the first and second degree.

Edward Speidel: I had one patient on whom I used an adhesive plaster bandage for quite a while, and it supported the kidney in position very nicely, but naturally this bandage is very irritating during warm weather, and as this patient refused to wear the bandage during the summer, I had her change to the Storm binder, which has given her absolute relief. The kidney comes down almost to the margin of the pelvis and is very easily pushed up and held by this binder, which is applied while the patient is in a recumbent posture. She has obtained so much relief from it that she has refused operation.

H. A. Davidson: I would like to ask Dr. Abell a question. Although he stated specifically in his paper that he would not touch upon the etiology, I would like to ask him what percentage of cases of floating or dislocated kidney he could attribute to traumatism, and what importance he attaches to traumatism in these cases.

Irvin Abell (Closing): In reply to Dr. Davidson I would say that the question he asks came up to me rather forcibly in the course of the last year, when I saw a man, in consultation, who claimed

to have received an injury, while riding in a railway train, which had resulted in a dislocated kidney. Certainly, he had a well-marked dislocated kidney.

Personally, I have seen but one case in which I felt that acute trauma played an important part in dislocation of the kidney. This was in a woman, of splendid physique, well developed and with an abundance of fat, who fell from the top of a step-ladder, alighting upon her buttocks. She immediately complained of pain in the right side, and examination revealed the kidney low down in the abdomen. She had never had a symptom referable to the abdomen or the kidney previous to her fall, and had been in apparently perfect health. In looking up the literature on the subject, I found that Casper of Berlin, takes the ground that acute trauma may produce renal motility. Morris mentions it as a possibility. Most of the other authorities on the subject deny that an acute trauma may produce renal prolapse. All of them, however, agree upon the fact that it is continued trauma offered to the kidney which results in prolapse. Personally, it seems to me that, in any case where acute trauma is supposed to have dislocated the kidney, the associated symptoms at the time would be of sufficient severity to attract one's attention. In the case I mentioned, which came under my personal observation at the time of the accident, the woman suffered severely and was confined to her bed for weeks with pain and tenderness in the region of the kidney, which was finally overcome by the application of proper support.

The subject is too big to permit of taking up all its phases in the paper. Practically all of the big corset stores of the present day make excellent corsets for the purpose of supporting ptoses. We can send patients to almost any of the corset stores in Louisville, and have them accurately fitted with very good corsets. It has been my plan to instruct patients to wear these corsets all the time. Most of them will not wear the corset around the house, and most of them do not want to put it on while lying down. As Dr. Tuley pointed out, these supports will do no good unless applied from below upward, and that cannot be done with the patient standing up. A pillow under the hips gives the patient the head-downward position, and the corset is then applied from below upwards.

Many of these patients will get sufficient pressure from the abdominal fat to correct a misplaced kidney. It has been my custom, in those who do not care to wear a corset about the house, to have a small binder made of non-elastic material (I prefer linen mesh), and have the patient apply it in the recumbent posture, adding gauze or cotton, if necessary, under the lower edge of the bandage.

My objection to the Rose binder is that it can only be worn a limited length of time. It is most useful in making diagnosis, especially in neurasthenia.

thenic cases. We should never operate until we can demonstrate that the cause of the neuars-thenia is associated with the kidney. If a Rose binder is applied and worn two or three months; and the patient gets relief from it, we can promise permanent cure as a result of operation.

THE WASSERMAN REACTION.

By E. S. ALLEN, LOUISVILLE.

Gschmeidlen and Traube in 1874 demonstrated that a considerable quantity of infectious material could be injected into the circulation of warm-blooded animals without apparently any effect on the animal. Pfeiffer, in 1894, discovered that a normal guinea pig is able to kill and dissolve a number of living cholera bacilli if these are injected intraperitoneally. If in such animal we gradually increase the dose injected it will be possible after a time to inject at one dose an amount of cholera bacilli that represents many times an ordinary fatal dose. The serum of this animal, if injected into another animal, protects the other animal against cholera. The serum of the immuned pig, when placed in the test tube, is able to dissolve cholera bacilli; it is bacteriolytic. If allowed to remain open for some time, it loses, to a great extent, this property; but, if the serum of a healthy pig, not immune, is added, it is again bacteriolytic, or is reactivated. The combining substance between the bacilli and antibodies degenerates under heat or exposure and has to be replaced by normal serum.

If we go back to the time when blood transfusion was practiced, we find that the blood of different animals transfused into man was more or less injurious, but that blood of a closely related species could be transfused without harm.

In 1898 Belfanti and Carbone showed that, if horses were treated with red blood cells of rabbits, the horse blood became toxic for rabbits. Bordet showed that the serum of guinea pigs which had been treated with defibrinated red cells of rabbits acquired the property to dissolve rapidly and intensely in a test tube the red blood cells of a rabbit, whereas the serum of a normal pig is incapable of doing this or does it very feebly; and that it had no effect on any cells except those of a rabbit. Then the guinea pig serum was said to be specifically hemolytic for rabbits' blood. Bordet further showed that the solvent power of the specific hemolysin depended on the combined action of two constituents of the specific serum.

When the fresh hemolytic serum was warmed for half an hour at 55 degrees c., it lost its power. If to this inactive serum a very small amount of the serum of a normal pig was added, the full hemolytic power was

restored to this inactive serum. This experiment shows that the hemolytic action of the specific hemolytic serum depends on two substances; one of these is able to stand heating to 55 degrees c. and is contained not only in the specific serum, but also in the normal serum.

The substance that resists heating (Thermostabile) is known as the substance sensa-bilitrice, or amboceptor, which is found only in specific serum. The other substance, which was found both in normal and specific serum, which was necessary to complete the reaction and which did not withstand heating, is called the complement, completing the reaction. Antigens are bacteria or haptophore group capable of combining with the side chains or receptors in the animal body.

Bordet, in his earlier works, has demonstrated that the blood cells of one animal has the power to disintegrate the blood cells of another animal. Here, as in the bacteriolytic group, the specific amboceptor is hemolysin. In the hemolytic system there are three members—the red blood cells, the complement and the hemolysin, or amboceptor. The members of this group when mixed and incubated result in the cells becoming dissolved and a solution of a clear, red color known as laked. The pressure of three members of a hemolytic system produce hemolysis. On the other hand, if you mix the members of the bacteriolytic system with bacteria, its amboceptor and complement, you produce no visible change. If immunity took place then immune bodies were present and binding took place. To determine whether the complement was free or united, red blood cells and hemolysin were added. Bordet and Gengou found that, if the complement had been bound to antigen by the bacterial immune body, hemolysis would not take place, the red cells sinking to the bottom of the test tube. But, if the antigen and the complement had not united, the complement is free and the solution of red corpuscles takes place at once. This led to the application of the experiment in syphilis. They reasoned that there must be present in the blood of syphilitic antibodies or specific amboceptors against the cause of syphilis. And if to the spirochaeta pallida were added known syphilitic blood containing supposedly syphilitic amboceptors, and if to this were added fresh blood serum for complement, half an hour later the members of this group would unite, and if red corpuscles and hemolytic amboceptors were added, no hemolysis could take place, because the complement would be used up or bound. Again, if to a solution of the normal blood be added blood containing no syphilitic amboceptors and fresh blood serum complement, no union would take place; and if you add red corpuscles and hemolytic

amboceptors, hemolysis would take place at once, because complement is present and not bound. As the spirochaeta could not be cultivated, Wasserman selected and made extracts from an organ containing them—the liver of a syphilitic foetus.

For antigen he used an alcoholic extract of syphilitic liver; for complement fresh guinea pig serum; for hemolytic amboceptor the serum of a rabbit immunized with sheep corpuscles, and the red corpuscles of a sheep.

The reaction is as follows: A known syphilitic serum; a normal serum, and a suspected syphilitic. Definite amounts of salt solution and of liver extract and complement (guinea pig serum) are added to each tube. The tubes are shaken and placed in the incubator at 37 degrees c. for an hour. The control tubes are kept separate. All of the tubes are removed from the incubator and to each is added a definite amount of amboceptor and red cells. Each tube is shaken and again placed in the incubator for two hours. It is possible to read the reaction as soon as the tubes are removed from the incubator; still, it is best to wait until the next morning for the reading. If the patient's serum contains syphilitic antibodies the antigen unites with them by means of the complement, and when a definite amount of amboceptor and red cells are added there is no complement left to complete their union, and the amboceptor is unable to hemolyze the red cells; they remain undissolved and at the bottom.

If, on the other hand, the patient's serum is normal, the complement is not used up and deviates to bind the amboceptor with the red cells; hemolysis takes place.

The Noguchi modification differs from the Wasserman method in that he uses anti-human hemolytic system instead of antisheep. Noguchi says that, at first, this may seem of little importance, but is really very significant, since it affects the accuracy, ease and reliability with which the test can be applied. Nouguchi says that the original Wasserman method is subject to error, in that there is present in the human serum a varying amount of natural amboceptor capable of being reactivated by guinea pig complement. This defect in the complement fixation system applies to all methods which employ foreign blood corpuscles for which human blood contains natural hemolytic amboceptors, capable of being reactivated by the complement method in the test.

There is no doubt but what the Wasserman reaction is one of the greatest additions to the diagnostic field in the present century, and if Ehrlich's "606" therapy proves to be what is claimed for it, the medical man will have under his control one of the most dreaded diseases of mankind.

This disease has baffled mankind because we have had to deal with a closed wound in which the multiplication of microbes and the action of their toxins accomplish their destructive work beyond our control and had to guess, to a great extent, at whether or not it had healed. Now that Wasserman has taught us that the study of chemical and biological conditions of the blood can be used as methods of diagnosis, we can recognize pathological conditions as they reflect themselves in the blood.

There is such a close relationship between the nervous system and circulatory system one controlling the functions of various organs and the other the nutrition, that it is safe to say that the etiology of disease of the nervous system is found in the blood and that diseases of the circulatory system can find their principal etiologic factors in the nervous system.

The Value of the Test. The Wasserman reaction has been found to be consistently positive in from 90 to 95 per cent of cases of known syphilis. The fact that the Wasserman reaction has been positive in practically all secondary cases of syphilis, and in 90 to 95 per cent of tertiary cases, and that the reaction weakens and finally disappears under specific treatment, and that a negative reaction and absence of symptoms may sooner or later be followed by a reappearance of both, seem to be incontestable evidence that the reaction means, when found, active syphilis, and is, therefore, a positive indication for treatment. If an individual has been apparently free from symptoms for years and gives a positive reaction, it must signify that he has, somewhere in his body, an active syphilitic process going on, and treatment should be resumed; and that when treatment is instituted it should not be interrupted until a constant negative reaction persistently manifests itself.

Dr. Kenyon, of Washington, D. C., says that the Wasserman reaction or Noguchi modification (for he believes the latter to be more delicate) should be used as is the Widal and refers to how sceptical the medical men were of the Widal at first; and says that because the Wasserman is not positive in every case of syphilis it should not be discarded, for the same reason that the Widal is not always positive in typhoid and is sometimes found positive in pneumonia.

Grosser says that the Wasserman reaction must not be rated too high as a guide for treatment, but that positive findings are important in diagnosis. He also says that a persistent positive reaction, notwithstanding vigorous treatment, raises the question whether the infection in these cases is peculiarly resistant to mercury.

The reaction is tenaciously positive in drinkers and the manifestations of syphilis in these cases are also peculiarly rebellious to treatment. But it is admitted that a plus reaction during a latent phase of syphilis generally justifies a new course of treatment, and a negative reaction suggests frequent repetition for a decisive conclusion. Butler, of Chicago, says that, in the secondary stage, he has gotten a positive reaction in 98 per cent of cases; in the tertiary stage, in 90 to 95 per cent, and that in the latent stage previous treatment and time plays a role. He says that from 60 to 70 per cent of individuals who have not had their infection for more than two or three years, and in whom the disease is apparently latent and who are being treated, give a positive reaction. Those who have had the infection for a number of years will give a positive reaction in from 40 to 50 per cent of cases. The better they have been treated in former years the less they give the positive reaction in after years.

Bruck, Stern and Lesser report having found the reaction positive in a few cases before the appearance of the initial lesion. Lesser reports finding a positive reaction one week following exposure; the initial lesion did not appear for two weeks, which in six weeks was followed by secondaries.

Butler says that the obtaining of a positive reaction in 90 to 100 per cent of secondaries and tertiaries is conclusive evidence of its association with virus activity.

The reaction rarely disappears before the symptoms and usually not for some time thereafter. Some tertiary cases, immune to treatment, continue to give a positive reaction. Several syphilographers assert that no period of treatment is complete without serum reaction, and state that the Wasserman is not only an index to the beginning of treatment but also to its interruption, and that the reaction should be made every three to six months to determine whether or not the reaction is remaining negative. As to what influence it is going to have on the advice as to marriage has not been determined, but it is probable that the physician is going to depend a good deal on a persistently negative reaction.

Cabot and Lensman say that the Wasserman is more important than the Widal in typhoid.

Becker, from Prof. Hoppe Seyler's Clinic, says that the positive Wasserman reaction in an individual means that this individual has at some time been infected with *Spirochaeta pallida*. Neisser says that only complement binding must be considered a positive Wasserman—for incomplete binding we find in other diseases; however, some take issue with Neisser. Saathof, in Von Muller's clin-

ic, says that in 500 cases of active syphilis he has never seen a negative reaction.

Baar, of Portland, Ore., examined 102 mothers who gave a positive Wasserman reaction, the children were positively syphilitic. Among these they could clinically diagnose syphilis in 27 mothers; the remaining 75 showed no signs, but the spirochaeta were found in the placental tissue. After confinement the positive Wasserman did not disappear in the mothers. He also reports cases where the mother gave a positive and the children a negative reaction, and vice versa.

This proves that the organisms produced the complement binding substance in the serum in which it was found, which, he says, means that a positive Wasserman is produced only by an active syphilitic virus, and that these clinically healthy mothers have been the bearers of spirochaeta, which means that they were not healthy, but syphilitic.

This explains that what we thought was a clinically healthy mother giving birth to a macerated syphilitic foetus by her first husband, and a second and third time to her second husband, who is clinically well and shows a negative Wasserman reaction.

And now Colles' Law is explained—that the mother of syphilitic children is immune against syphilis, because she herself is syphilitic; and Pfoefetas' Law, which elaims immunity against syphilis of clinically healthy children born of syphilitic parents. These children have been proven not to be healthy; they give a positive Wasserman reaction. I could go quoting cases from literature almost indefinitely, but let me conclude by saying that Wasserman has done much, or more, for us than did Koch when he demonstrated the tubercle bacillus, and that we should take advantage of this wonderful addition to our diagnostic facilities; and when a positive Wasserman is found (which should as certainly be used as the microscope before saying that an acute urethritis is gonorrhoea) institute such vigorous treatment as to bring about an early negative reaction and by repeated examinations keep the reaction negative, and not be willing to say at the first negative reaction that the patient is cured. If Ehrlich's "606" is going to stand the test that it is now being put to, and by one injection transform a positive Wasserman into a negative and a persistent negative, then we will have under control that disease which is responsible for more deaths than any other except tuberculosis—and which is probably a greater curse to man.

The Wasserman reaction, stated concisely, is, when a patient's serum contains syphilitic antibodies, the antigen unites by means of the complement, and when amboceptor and red cells are added there is no complement

left to hemolyze the red cells. If the serum is normal the complement is not used up and binds the amboceptor with the red cells—hemolysis takes place.

DISCUSSION.

Herbert Bronner: Dr. Allen's very excellent paper leaves very little to be added. However, I wish to say a few words in regard to the Wasserman reaction from a practical point of view. In the first place, there seems to be still some doubt as to reading the reaction. I think it has been pretty well established that, whenever the Wasserman reaction is positive, it is always indicative of active syphilis, but in regard to those cases in which the reaction is partial or weak, there seems to be some difference of opinion. For example, some authorities claim that where a partial reaction is obtained in a case in which there is no history of syphilis, and the patient has had no mercurial treatment, this patient should be regarded as sound; and, on the other hand, if a weak reaction is obtained in a case in which there is a specific history and the patient has been under mercurial treatment, that patient should be regarded as syphilitic.

I believe the Wasserman reaction is going to be one of the greatest aids we have in the diagnosis and treatment of syphilis. Of course, in the ordinary case of secondary syphilis, the trained clinician will usually have no trouble in making diagnosis, but even in secondary syphilis we occasionally meet with a case in which the reaction is necessary to establish the diagnosis; for example, where there is no specific history and no initial lesion, and yet the patient has the typical symptoms of secondary syphilis. In such cases we will have to rely upon the Wasserman reaction for accurate diagnosis. However, it is in the tertiary and late syphilis that the Wasserman promises to be of the greatest assistance. For instance, cardio-vascular disease as studied from the standpoint of the Wasserman reaction, has been shown to be of syphilitic origin in a number of cases. Authorities have shown that as many as eighty-five per cent. of cases of aortic insufficiency and eighty per cent. of cases of aneurysm are of syphilitic origin. A study of visceral diseases from the same standpoint have shown that more cases than we have thought are of syphilitic origin. Diagnosis of visceral syphilis has always been difficult, either because of the lack of typical symptoms or because the symptoms simulated other conditions. That this is true is shown by autopsy reports. Loesser found 30 cases of gumma of the liver, 8 cases of syphilitic cirrhosis and 19 cases of gumma of the lung that had not been diagnosed ante-mortem. When it comes to nervous and mental diseases, we find that a large proportion of cases are of syphilitic origin. The Wasserman reaction has shown that all general paresis, practically all

tabes and 20 per cent. of cases of insanity are of syphilitic origin.

I am glad that Dr. Allen mentioned Colles' law. The Wasserman reaction has shown the absolute fallacy of this law; in other words, a woman who gives birth to syphilitic child is syphilitic herself.

I believe in the Wasserman reaction we are going to have one of the greatest aids in the scientific treatment of syphilis. Heretofore we have undoubtedly been arbitrary in the treatment of this disease, simply giving the patient so many years of treatment, but hereafter we will be able to treat each case according to its individual requirements, and will treat them until a negative reaction has been obtained a number of times before we turn them loose.

W. F. Boggess: I think we all owe Dr. Allen a vote of thanks for his most scientific paper. I believe that in this reaction we general practitioners have a most valuable means of diagnosis of syphilis, and that it will give us a positive etiological and diagnostic factor in many cases which have heretofore been impossible to diagnose. Personally I must confess that I have never appreciated the value of this reaction as much as I do since hearing this most excellent paper.

C. H. Harris: I do not believe we have another man capable of giving us so scientific an explanation of the Wasserman Reaction as Dr. Allen has. Of course, as usual, this reaction breaks up some of my long cherished theories. Lately I have been reading a syphilographer who claims that syphilis dates back to the time of Christ, and he asserts that even some of the Apostles of Christ had syphilis. He bases this theory upon certain lesions found in skeletons that have been resurrected, and claims that in a little while the entire human family will be immune to syphilis, either by inheritance or acquirement.

As clinicians we all know that, when a mother bears a syphilitic child, she does not become infected by nursing that child; it seems that the mother is in some way immune to the disease. And yet I believe, gentlemen, that once with syphilis, always with syphilis; it makes no difference how slight the initial lesion, or how slight the secondary manifestations, and some day the hydra-headed monster will creep out of his lair, and who knows but what it will be in the form of tabes dorsalis.

Often these patients ask us, when can they marry? For a long time we have been in the habit of telling them that three years of treatment were required before they could marry, and yet I have seen these patients undergo treatment for from three to six years, and then marry and have syphilitic children born to them. We do not know when syphilis is cured.

One great advantage in the diagnosis of these conditions is that we have a specific for syphilis. Whenever you see a condition that you suspect is

of syphilitic origin, and you give mercury in any way, and the symptoms begin to clear up, that man has syphilis.

Wm. A. Jenkins: Just a few words from the standpoint of the internist. First, just as soon as this test is placed upon a sure scientific basis, it ought to do away with that long wait for the suspected patient to bloom out with all the secondary manifestations of syphilis before we can make an accurate diagnosis. It will also be of value in the way of a gauge to treatment; that is, the amount and the length of time it should be continued.

Another point is that we should not be too hasty in jumping at conclusions. We should bear in mind that there is a possibility of this reaction obtaining in other conditions. Some time ago I read an article, in the Journal of the American Medical Association, giving a whole series of cases in which this reaction was obtained twenty-four hours after the administration of a general anesthetic. I mention this, not to detract from the value of the test, because I believe it is going to take its place along with the Widal reaction in typhoid fever, but we should keep the possibility in mind, and should not. We should regard all reactions of this whether we find anything else to confirm it or not. We should regard all reactions of this kind as being confirmatory and not conclusive.

Herbert Bronner: A number of interesting experiments that have been made with Ehrlich's "606" have shown that, while under his treatment the spirochaetae have disappeared from the blood within twenty-four or forty-eight hours, the Wasserman reaction did not become negative until an average of 40 days after the administration of the "606."

Another fact that the Wasserman reaction has conclusively demonstrated, is that mercury is the curative agent in syphilis; not only that, but that the hypodermic and innunction methods are far superior to the internal administration; that is a negative Wasserman reaction was obtained much more quickly after the administration of mercury hypodermatically or by innunction than after administration per os.

J. Rowan Morrison: I appreciate this paper very much. The doctor has gone into the explanation of the Wasserman reaction very thoroughly and has made it plain.

It does seem, as Dr. Jenkins has stated, that until we are sure that this reaction is specific we should not be too much led aside from our old clinical methods in the diagnosis of syphilis. As pointed out by Dr. Bronner, in some of these cases the reaction is not sufficiently positive to warrant diagnosis unless we have a specific history to back it up. However, that should not detract from the test, and we should avail ourselves of it in the treatment of syphilis, as regards the improvement of the patient, and in general medicine in cases of aneurism, internal

diseases, etc., where syphilis might play a part.

E. S. Allen (Closing): I have very little to say in closing except to thank the gentlemen for their discussion. In syphilitic nerve lesions we do not find the Wasserman reaction positive in the percentage of cases that we do in lesions of other tissues. I think, in view of the fact that thousands of cases have been examined, and that a positive reaction has been obtained in 95 to 98 per cent. of cases of known syphilis, the small percentage of failures can be attributed to errors in technique, not having the solution properly sensitized, etc. I doubt whether there is any chemical test as complicated as this one by which we can get absolutely the same result every time. In those cases of tuberculosis in which the reaction has been found to be positive, it has been possible, in nearly every case to secure a more or less positive history of syphilis, and in many instances in which a positive reaction was obtained in this condition it has been by men inexperienced in making the test. However, it has been found positive in tripanozomiasis, which is produced by an organism similar to the spirochaeta pallida.

CLINICAL CASES

REPORTS OF CASES.

By ADOLPH O. PFINGST.

CASE I.

GOLD RING IN THE VENTRICLE OF THE LARYNX
OF A CHILD THREE MONTHS OLD.

I wish to show this specimen more as a curiosity than anything else. This rather large and broad gold ring was removed from the larynx of a baby in arms.

While sucking her finger containing the ring, the child was suddenly taken with dyspnoea.

Dr. W. T. Roberts, who saw her soon after, was able, with the fluoroscope, to locate the foreign body high in the throat. As the child had only slight difficulty in breathing, we determined to anesthetize her. Digital examination revealed the presence of the ring under the epiglottis, having wedged itself into the ventricle of the larynx, with the opening in the ring almost horizontal, thus allowing air to pass. The removal with a pair of laryngeal forceps guided by the index finger was not difficult.

CASE II.

DERMOID TUMOR OF THE CORNEA-SCLERAL
MARGIN.

This boy, 17 years old, gives the history of

having had a growth on the left eye since birth. As long as his mother can remember it has been about the size of a small bean and had a light pink color. In the last two years it has grown and has developed hairs on the surface.

You will notice on examining the case a convex growth at the left cornea-scleral margin about three-eighths inch in diameter and overlapping the cornea. Close examination shows the tumor to have a covering of skin with short hairs projecting from the surface.

This is evidently a dermoid tumor and is probably made up of all of the structures which enter into the makeup of true skin. These growths are believed to be congenital defects due to remnants of amniotic membrane implanted upon the eye the first three or four months of intra-uterine life while the lids are apart.

Cases of this kind are frequently associated with other congenital malformations, such as coloboma of iris, choroid of lids, cleft palate and hare lip. Their most frequent seat is at the outer and inferior margin of the cornea, where they spring from the conjunctiva and later encroach upon the cornea and sclera. Exceptionally they spring from the caruncle or the cornea. They may retain their original size for a long time. Whenever they grow much it is either due to cystic degeneration or to the development of adipose tissue. The average size of reported cases is from two-eighths to three-eighths inch in diameter and one-eighth inch in height. Several years ago I reported a case about the size of this one in the *Ophthalmic Record* and I recall seeing two other cases in which the growth was smaller.

They usually cause no symptoms unless they become as large as this one, and interfere with closure of the lids.

The treatment is surgical, and as they often encroach on the corneal tissue, the superficial structure has to be removed with the tumor.

Danger of recurrence is slight when excision has been complete.

CASE III.

LEFT TEMPERO-SHENOIDAL ABSCESS.

I wish to make a continued report of a case presented to the surgical section about two years ago. This man, 48 years old, was operated upon two years ago for brain abscess and as the case has a number of features of interest, I have asked him to appear before you. Giving his history obtained at the time of the operation as briefly as possible, I will state that he had chronic atorrhea of 40 years' duration, but had never had symptoms referable to the ear, except in the last two years, in which he had frequent headache on

the left side, his memory had become defective and he had been unusually irritable.

Active symptoms began about two weeks before Dr. Thos. Hays and I saw him. In these two weeks his wife states that he had severe, almost constant, headache; he was listless, had some fever and was mentally unbalanced.

Diagnosis of brain abscess was made easy because it was on the left side, in the temporo-sphenoidal lobe, the patient having the form of aphasia characteristic of that region. He could recognize objects seen or words spoken and could name objects when told what they were, but could not name them spontaneously.

This is a form of aphasia of the kind first spoken of by Freund as optical aphasia and later by Starr as intercortical sensory aphasia, and is characterized by the inability of the patient to recall the names of objects seen or things heard, though there is a comprehension of objects seen and of spoken words as indicated by signs or by writing. The impulse from the word hearing center cannot arouse the visual memory, nor can the association be made in the opposite direction. The lesion involves the tract between the temporal and occipital lobes of the left hemisphere. Outside of this localizing symptom there were few general or pressure symptoms.

The patient was operated on and a large abscess about the size of a hen's egg found in the temporo-sphenoidal lobe. The tegmen was necrotic and opened into a subdural abscess of about one and one-quarter inches in extent. In the dura, which formed the bed of the abscess, a small fistula was found leading to the brain abscess. The dura was split and drained with tubes and gauze. It is worthy of note that the patient did not have an unfavorable symptom immediately after the operation. However, after two months the pus cavity refilled, owing to closure of the dural membrane and gave rise to symptoms as he had them in the beginning. At the second operation a large piece of dura was excised and he made an uninterrupted recovery and now, after two and one-half years, has about lost the aphasia. I wish to say that a radical mastoid operation was done at the time of the original operation, which accounts for the present dry condition of the ear and the complete closure of his wounds. The man is, as you see, apparently in perfect health and has been actively at work for over a year.

DISCUSSION.

Jno. J. Moren: I saw this case with Dr. Pfingst before the operation, at which time he had this typical manifestation of aphasia. The only author who refers to this particular type of aphasia is Starr in his book on *Organic Nervous Diseases*, and he calls it intercortical sensory

aphasia; all other authors speak of it as conduction aphasia. He got his information from studying a case reported by Dr. Pick in this country, but Freund was really the first man to call attention to this form of aphasia, in 1889.

Personally I have seen five cases of this manifestation. One was in an old negro, who was unable to name objects upon seeing them but could repeat the word when it was suggested to him. He also had paralysis of the right arm. Under the administration of iodides he recovered absolutely.

Another case was in a Jewish boy, about 30 years of age, a plumber. He was treated for lead poisoning. He also had this more or less typical aphasia, as well as paralysis of the right arm. In addition to this, he was unable to recognize objects held in his hand. The only thing this Jewish boy could recognize was a silver dollar. Put a knife, or a key, or anything of that kind into his hand and he could not name it, but when a silver dollar was dropped into his palm he would recognize it at once.

The third case was very interesting to me. This patient developed a convulsion just after taking a bath, which was followed by typical Jacksonian epilepsy of the right arm and left leg. Diagnosis of tumor over the arm center was made and Dr. Grant operated, but nothing whatever was found in that neighborhood. The patient improved somewhat after operation, but in the course of a year or two the convulsions increased in severity, the aphasic symptoms still being present, and the case finally terminated by death during a convulsion. Dr. Hays examined the brain and found a small acute softening in second temporal lobe, subcortical.

The fourth case was in a man 60 years old, who probably had thrombosis of one of the branches of the middle cerebral artery. It was thought that this man probably had an abscess, but Dr. Pfingst reported that there was no evidence of such a condition. In a short time he developed complete hemiplegia, went into coma and died.

One feature in regard to these cases is that, if there is not complete destruction of the fibres leading from the auditory center to the occipital lobe, the patient will regain his ability to name objects, but if there is complete destruction of these fibres, the aphasic manifestations will, of course, be more or less permanent.

Herbert Bronner: This patient came to me in June, 1909, for treatment for syphilis. At that time he had the typical primary lesion and developed the usual secondaries. It has been very interesting to me to watch the improvement in this man's aphasia. In the beginning it was very difficult to carry on a conversation with him. When asked a question he would reply that he knew what he wanted to say but could not say it, and that would usually end the conversation. However, improvement has been

gradual and constant, until now he can carry on a conversation fairly well.

W. C. Dugan: This is certainly a very interesting case. I have seen quite a number of cases of brain abscess, and one that I met with recently impresses me as being of unusual interest. Dr. White had performed a radical mastoid operation on this man about a year ago. He had a number of convulsions at that time. He got almost well but developed one of those chronic sinuses that keep on discharging for a long time. The doctor would dress it and say that, after the next dressing he thought he would be able to discharge the patient, but in a day or two he would come in with a little drop of pus, and that continued until a few months ago. One Sunday morning he went to the doctor with his usual drop of pus and complained of headache. The doctor examined his eyes, as he was rather fearful of an abscess, but could find nothing. He suffered all day Sunday and Sunday night he slept very little. The doctor was called to see him about ten o'clock Sunday night and gave him a hypodermic, but still he got little or no sleep. All day Monday he continued to suffer, and in the afternoon he screamed with pain, crying out to some one not to hit him in the head. Very suddenly he became unconscious, and during this unconsciousness it was observed that he had paralysis of the right side of his body. I saw him the next day with Dr. White and we decided to send him to the infirmary and operate. His pulse was very slow, about 40; temperature about 101 degrees F. We operated on him that afternoon and found a large abscess following a sinus from the old mastoid, which, to all appearances, had been in existence for a long time. We followed it in and opened up the abscess and evacuated several ounces of a very offensive pus. Relief was immediate. He was perfectly conscious shortly after the operation, the paralysis was relieved and I never saw a patient make a prettier recovery. I was so proud of this case that I felt that I would like to show it to the society, and on the Monday I intended to do so, he was up and around all day. However, I decided not to, as I feared something might happen which would make me regret it. The next morning I went to the Infirmary and found the patient complaining of a headache, having slept but little the night before. The headache continued to become more and more severe, and I concluded that he had another abscess, and decided to operate a second time. The wound was opened up and a second abscess found, a little anterior to the first, just over the middle fossa. However, the patient obtained no relief and went along and died.

I recall another case that I operated on about three years ago. This young man while playing baseball, had fallen, and another player fell on him, severely crushing both his head and his

knee. This was followed by a severe headache, which continued for several weeks, and finally became so severe that it required a large amount of opium to give him any relief whatever. His pulse at first had been very slow, but when I saw him it was 150. I decided to operate on him. Dr. Pusey examined his eyes and pronounced choked disc present on both sides, but more pronounced on the right, with a haematoma on the right side of his forehead. I made a flap in the forehead at this point, turned it down, and made an opening with a chisel and mallet, and found no evidence of clot, but the membrane were of rather a yellowish hue, showing that they had been subjected to trauma. I called for a needle and was handed one about 2 inches long, and upon introducing it I felt a sense of resistance, and it took quite a little pressure to force it through, and withdrew a hypodermic of pus. Following this with a scalpel, I am sure that I am underestimating the amount when I say that four ounces of pus were evacuated from this wound, and there was a large amount of pus in the dressing the next morning. A drainage tube was introduced, and when it was removed I measured it by my hand, and it extended from the base of the thumb to the tip of the finger. That was the depth of the wound leading back into the brain. This man recovered and is practically well to-day.

In regard to *hérnia cerebri*, I do not believe we should ever cut them off, nor do I believe that pressure should be used. You need have no fear of a *hernia cerebri*. Just as soon as the circulation is restored, and the contents of the cranial cavity adjust themselves, the brain will settle back and the *hernia cerebri* will disappear, and in every one of these cases, without exception you will find a pronounced depression, just as in the case exhibited by Dr. Pfingst to-night.

Edward Speidel: This discussion reminds me of the fact that I have a relative (who does not live here) who possibly has a condition similar to this one, and I would be glad to have Dr. Pfingst express an opinion on the case in his closing remarks.

This young man has had a suppurating ear for 25 years. Fifteen or twenty years ago he was operated upon by Dr. Sexton, of New York, and the ossicles of the ear removed. In spite of this, he continued to have a suppurating ear, and in late years I believe the condition has been somewhat neglected. Recently we received a report that he was suffering from attacks of dizziness and faints, or becomes unconscious, and this will last four or five hours. After regaining consciousness he has no recollection whatever of the attack, and appears to be in normal condition. He is under the care of three of the most eminent physicians in the East, two internists and one aurist. The internists' diagnosis is that these attacks are epileptic in char-

acter and are possibly due to brain tumor, while the aurist claims that they are caused by the condition of the ear. As far as I know, he has no symptoms referable to the arms or legs that would localize a brain tumor. Examination of the eyes, according to the report sent to me by the aurist, simply discloses the fact that the vessels of the retina are atheromatous.

A. O. Pfingst, (Closing): I have not very much to say except that I appreciate the discussion of this case.

One point that Dr. Dugan made is of interest to surgeons in general in cases of this kind; that is, the amount of pus that is found in these cavities. In my report I stated that this cavity emptied itself of two or three ounces of pus, but it seemed to me that a much larger amount than that came out of it. It is hard to estimate the size of a cavity in the brain substance; you can only approximately estimate it by the amount of pus that comes from it. In this case after the second operation, I could easily run two fingers down into the brain substance.

In regard to the abscess recurring after operation, I believe that in those cases which are of slow formation, where the cavity has a chance to throw up a wall around it (as no doubt it occurred here), there is not so apt to be a secondary abscess, but in those cases where the abscess forms more rapidly, as in Dr. Dugan's case, there is more chance of another one forming in the immediate neighborhood. I had the pleasure of seeing Dr. Dugan operate the second time on the first case he mentioned, and the second abscess was plainly visible above the site of the first one.

In regard to Dr. Speidel's case, is this patient has pronounced symptoms indicative of intracranial trouble a radical mastoid ought to be done and the cranial cavity explored.

ADDISON'S DISEASE—REPORT OF A CASE.

R. E. WILHOYTE, LOUISVILLE.

I report this case of Addison's disease on account of its rarity, the very grave prognosis and with a view of learning something in the discussion relative to its treatment.

I will not go into the history, pathology, etc., further than to say it is an affection of the suprarenal glands.

M. G., age 34, married, born in Anderson county, Ky., lived on a farm until about 24 years of age, since then had done clerical work, in Louisville.

Parents are living, no specific history, had a severe attack of remittent fever, when about 18 years of age, since then had good health until a few months ago, when this condition began to show itself.

He called at my office April 15, 1910 with symptoms of malaise weakness not much appetite, some irritation of bladder, and impotency at times. His color was not very good but little did I suspect Addison's disease. For a while he seemed to improve under tonic treatment and continued at his work until April 30, 1910, when I was called to see him. I found a very weak pulse, not rapid, no appetite, nausea, more or less pain in stomach, temperature normal, sub-normal at times, discoloration of skin very marked.

Treatment consisted of stimulation, suprarenal extract by mouth, adrenalin sol. 1-1000 15 min. hypodermatically 4 times a day.

All the nutritious food we could persuade him to eat, but all were of no avail and he grew rapidly worse and died May 13, 1910.

Drs. Boggess and Abel saw the case with me and Dr. Allen made a blood examination.

EXAMINATION OF BLOOD.

BY E. S. ALLEN.

Haemaglobin; 80%.

Red Cells in Cu. Mm. 4,985,000.

White Cells 8,500 per 1 c. mm.

Color index; 90%.

No pathological changes observed.

STAINED SPECIMEN

Megalo or Microcytes; none.

Poikilocytes, some artefacts.

Polychromatophilia; none.

Erythroblasts; none.

Megalo or Microblasts; none.

Blood Platelets; present.

Lymphocytes; slight lymphocytosis.

Mononuclears, 35%.

Transitionals; 2%.

Neutrophiles; 60%.

Eosinophiles; 2.5%.

Basophiles; .5%.

Myelocytes; none.

Parasites, bacteria; none.

Remarks—An increase in the lymphocytes.

DISCUSSION.

W. F. Boggess.: I had the good fortune and pleasure to see this case. As soon as I saw the patient I recognized the case as one of Addison's disease. The color was the most marked of any that I have ever seen, and he had the gastric symptoms and the tremor, and altogether gave a typical history of rapid and progressive Addison's disease.

I have had the misfortune to have seen four or five of these cases. In two of them, at the asylum, post-mortem examinations were made, and in one positive evidence of tuberculosis of the suprarenal gland was found; the other had hyperplasia of the suprarenal gland. I had a case at the City Hospital a number of years ago

in which was found what appeared to be tuberculosis of the suprarenal gland.

In Dr. Wilhoite's case the discoloration of the skin was very marked and characteristic; the penis and scrotum were almost black.

In none of these cases have I seen any good results from treatment. Of course, since the advent of suprarenal extract, we are offered, theoretically at least, a great deal in the way of cure or prolongation of life, if we recognize these cases early enough; but, unfortunately, we do not recognize them until the later stages, when the pigmentation is so pronounced and characteristic that the veriest tyro can make diagnosis. In the earlier stages it is generally treated as pernicious anaemia. Two cases that I had were thought to be pernicious anaemia, but upon having the blood examined no anaemia was found to be present. This case was in the latter stage of the disease when blood examination was made, and only lived a few days afterward. Even at that stage the blood does not show any marked changes that could be characteristic of any diseased condition. The only abnormality, if I remember correctly, was a slight increase in lymphocytes. Fortunately for us doctors, these cases are rare; we do not see them every day, but as I said, we do not recognize them early enough for the suprarenal extract to do any positive good.

SYRINGE FOR FILLING AND CLEANING BLOOD PIPETTES.

By EMMET F. HORINE, LOUISVILLE.

In presenting this syringe, it is not my desire to claim originality. Over two years ago Thomson described a similar device in the *Journal of the American Medical Association*. While the syringe herewith presented differs from Thomson's syringe, nevertheless the credit for the device belongs to him.

A hypodermic syringe is used, to which is screwed a hard rubber point. The hard rubber is hollowed out to snugly admit the large end of a blood pipette. The ordinary piston shaft of the hypodermic syringe has been removed and in its place a shaft has been substituted upon which large threads have been cut. A pinion is arranged so as to engage in the threads cut upon the piston shaft. The pinion may be inserted or removed at will.

To operate, the syringe is held in the right hand, the third, fourth and little fingers grasping the barrel. The thumb and index finger control the piston. The tip of the pipette is engaged with a drop of blood and the piston shaft is then very slowly turned until the desired amount of blood is drawn into the pipette. Then the excess of blood is quickly wiped from the pipette and the pipette plunged into the bottle of diluting fluid.

Now, by quickly turning the pinion-head, the diluting fluid is drawn in and mixed with the blood.

The pipette should be turned several times

while obtaining the diluting fluid. When the blood is properly diluted, the syringe is removed and a Seymour stopper is placed upon the pipette. The pipette is now carefully shaken to insure proper admixture of the blood and diluting fluid.

The Seymour stopper prevents loss of fluid in transporting the blood from the patient's home to the laboratory.

After the count has been made, the syringe is used to clean the pipette, the pinion being detached. The pipette is cleaned by successively filling with water, alcohol and ether.

DISCUSSION.

B. J. O'Connor: This device for cleaning and filling blood pipettes seems to be quite ingenious, but I do not know how it would work out in practice. It seems to me that it would take almost as much skill to get an accurate dilution of the blood with this device as by the ordinary method.

For cleansing purposes I do not know of anything that would be better than this, although I see no reason why an ordinary rubber bulb would not answer the purpose just as well.

The most practical part of the whole equipment is the little rubber device for sealing the end of the pipette while taking it from the bedside to the laboratory to make an examination.

I would like to hear from Dr. Horine how the instrument works out in practice for drawing up a definite amount of blood.

Jno. B. Richardson, Jr.: I disagree with Dr. O'Connor in regard to the accuracy with which blood could be drawn up with this device. It seems to me that it would enable one to draw up any quantity that might be desired, and certainly we are unable to do that with the hand or by means of a rubber bulb.

The instrument impresses me as being very practical, so far as cleansing the pipette is concerned, and anyone who has done much of this work and spent a lot of time cleansing the tubes, will welcome a device of this kind.

Curran Pope: I did not arrive in time to witness the demonstration, but upon examining the pipette, I can see the simplicity of the mechanism, and it strikes me at once that the great value of such a device is the avoidance of the sudden rising and falling of the column of blood. Those of us who do a great deal of blood work experience considerable trouble along that line, and any arrangement by which the flow can be graduated into the pipette will certainly be an addition to the laboratory paraphernalia.

I did not hear about the mechanism for cleansing the pipette, but the little arrangement for carrying the tube is certainly a very good one.

E. F. Horine, (Closing): One of the speakers asked whether I have put this device to practi-



cal use. I have used it a number of times and find that I can get the correct amount of blood with perfect ease. It is a real pleasure to work with this syringe because it eliminates one chance for error by enabling us to obtain the requisite amount of blood with absolute accuracy.

I might add that Theodore Tafel manufactures these instruments.

BRANCHIAL SINUS.—REPORT OF A CASE AND SPECIMEN.

BY JNO. R. WATHEN.

In presenting this specimen and reporting the case, I will first briefly call your attention to the embryology of branchial cysts, fistulae and sinuses.

The following description has been taken from Keen's Surgery, Vol. I:

"There are four branchial clefts in the four-weeks fetus, the analogues of the gills of fishes." * * * * "When these clefts do not coalesce we find congenital cysts, called branchial cysts or fistulae. These may or may not open directly into the pharynx from the outside." * * * "Clinically, congenital fistulae may be complete epithelial cavities from skin through to pharynx, giving rise to five types of abnormalities about the human neck: (1) Complete branchial fistulae (outer and inner openings); opening complete; (2) Incomplete external fistulae (outer opening only); (3) Incomplete internal fistulae (inner opening only); (4) Branchial cysts (neither outer or inner opening); (5) Branchial dermoids." "These branchial fistulae are to be distinguished from another form, the median fistulae, called the thyroglossal or thyrolingual, but of a different origin, being connected embryologically with the thyroid gland."

In regard to the treatment the same article in Keen's Surgery says:

"The treatment is difficult by operation. In some the lining is so intimately connected with the great vessels and deep spaces that attempts at removal are inadvisable. Partial removal leads to recurrence, cyst formation, and disappointment." * * * "The treatment by injections of caustic to destroy the lining is followed by failure in most cases, on account of the multiplication of folds and sinuses of the epithelium which the agents fail to reach. Their use has not been advised by those who have given them the most extended trials, as few or no cures were obtained." "In spite of the great difficulty and sometimes impossibility of extirpating these fistulae by operation, this still remains the most scientific curative resource."

Attention should be here called to the important structures between which the fistula

passes. From the pharyngeal or tonsillar region it crosses in its course downward the pharyngeal and hypoglossal nerves, and passes under the stylopharyngeus and styloglossus muscles, emerging alongside the great vessels and passing between the external and internal carotids across the digastric muscle to the hyoid region. It then finds exit between the sternomastoid borders or near one of them; sometimes its outlet is as low as the top of the sternum.

The following is a report of this case: Young woman, aged 25 years; first noticed a swelling along right side of neck when about six years of age. This later disappeared through a small opening just above the clavicle on the same side. From time to time it would fill up and spontaneously discharge the contents. The sinus had been cauterized on several occasions and a small probe could be introduced through the outer opening and carried in for several inches. Patient would then be taken with a violent fit of coughing.

Under an anaesthetic a long incision was made and the sinus carefully dissected from the outer opening up through the neck to the outer opening into the pharynx just behind the tonsil. As can be seen in the specimen, the sheath is considerably thickened and was very intimately connected with the large vessels of this region. This was one of the most tedious and difficult pieces of neck surgery I have ever encountered.

The patient made an uninterrupted recovery, since the entire sinus was completely removed.

DISCUSSION.

W. C. Dugan: I wish to congratulate Dr. Wathen upon this case, because this is certainly one of the most tedious and difficult operations one could undertake.

I saw a case something like this, except that the sinus did not open so low down—about half way between the mastoid and the neck. It opened into the larynx very much in the position Dr. Wathen described. The operation was very tedious, and the result about the same as in Dr. Wathen's case.

REPORT OF FOUR CASES OF UTERINE CANCER IN YOUNG WOMEN.

BY A. DAVID WILLMOTH.

In reporting the following cases it is my desire to inspire a more careful study of uterine disease in young women, and to also stimulate a careful study of every case of curettage.

The prevalence of cancer in young women must be more carefully studied if we expect to lower the mortality, for all recognize that

in early diagnosis lies the hope of relief, if any is to be had.

The first case is one I especially desire to call your attention to, for it is an illustration of the very class that is most often overlooked.

Case I.—Mrs. B.; white; age 30; family and personal history good; had three brothers and one sister, all living and in good health. Father died of pneumonia and mother died of supposed LaGrippe. Patient had diseases incident to childhood; otherwise had never been sick. Menstruation appeared at 14 and was established at 15 years of age. Married at 20, was never pregnant, and, so far as she knew, was in perfect health with the exception of a slight leucorrhoea at times which she controlled by warm douches.

When about 28 years old she noticed that her period remained on for nearly two weeks. As she had never been other than normal in both amount and time she at once attributed this to her having to remain on her feet. The period appeared again in about two weeks and for the next year she was very irregular, both as to time and amount, but always more than usual and between menstruations she had a slight leucorrhoea. She then became unwell as she expressed it and remained so for several months until she was compelled to seek relief. On examination the uterus was not enlarged nor was there anything to indicate serious trouble other than the slight amount of bleeding that was going on. She was advised to have a curettage which was done and the scrapings examined. It showed adeno-carcinomatous cells. She was advised to have a complete operation which was done from below. After one year she has had no return of the growth. Microscopic examination of the outer uterine wall showed no infiltration. Time alone will tell the result in this case.

Case II.—Mrs. A.; white; age 34; personal and family history good; had diseases incident to childhood. Menstruation appeared at about 14 and was well established at 16, after which time it was normal in time and amount. She was married at 20 and gave birth to one child at age of 22. She was in perfect health after birth of child for about three years, when she noticed a leucorrhoea. On consulting a physician she was found to have a small tear on the left side of cervix. She was advised to have this repaired and to have the uterus scraped, to which she consented. This relieved the discharge for several years (there was no examination made of this scraping that I could find.)

About seven years after this she began to have trouble again with a discharge and the period would remain longer and was more profuse than normal. This condition continued

for several months when she appeared for relief of the trouble and when the uterus was curetted and examined it was found to be a carcinoma, and a complete removal was advised and done, but recurrence rapidly took place at the upper part of vagina, together with metastasis in the stomach and death took place less than one year after operation. This case is of double interest from the fact that carcinoma of the uterus seldom attacks other organs and especially the stomach, being very rare here, and, while this recurred in the vagina, death was due to the stomach involvement.

Case III.—Miss S.; age 36; single; personal and family good with the exception that mother died with uterine cancer at age of fifty. Patient's menses appeared at fifteen and after a few months was regular, lasting about five days, until about one year ago when the period became profuse and lasted for several days. After some six or eight months, she came under observation for operation, but as the trouble was far advanced she was sent home. Patient still living unless death has been recent.

Case IV.—Mrs. W.; age 37; personal and family history good. Patient had never menstruated more than two or three times until present hemorrhage began about fifteen months ago. She was married at 21, but has never been pregnant.

About fifteen months ago she began to bleed from the uterus and to have more or less watery discharge, when examined she had a beginning breaking down of cervix. The entire uterus was removed wide from the wall. As this has been only a few weeks ago the further history is of no interest.

In conclusion I desire to impress upon you the following points: First, a beginning cancer shows nothing macroscopically (hence no specimens shown) but the following points at the operating table are well worth remembering, viz.:

Instead of the thin translucent slips of mucosa, as seen in the normal, we will often see large friable strips come away, shaggy in appearance and waxy looking; the amount is in excess of the normal.

The bladder will often be found irritable, etc.

The following suggestions should be known and carried out by every physician, viz.: Every woman should be examined by her accoucheur to see if any appreciable tear has taken place. All chronic lacerations of the cervix that show inflammation should be attended to at once. All tumors of the uterus should be removed, whether submucous or interstitial. All abnormal bleeding should be investigated. If uterus shows nothing on examination and bleeding or discharge has been

going on for some time a thorough eurettege should be done and examined microscopically.

Two points of education are in need of more general dissemination. The first is, physicians should be more thoroughly educated as to the curative effects of an early operation, and lastly the laity should be educated along the following lines: (1), Cancer is first a local disease; (2), In its very incipency it can be removed in toto; (3), While still local it causes no symptoms that they, as a laity, can elicit: such as loss of weight, discomfort, etc.; and (4), When pain, loss of weight, discharge of offensive nature, bleeding, etc., takes place it is too late to operate to save life. Upon these points depends the success of the German surgeons and not upon their skill; therefore why should not we obtain the same low recurrence rate?

DISCUSSION.

Wm. H. Wathen: Papers upon cancer of the uterus, calling attention to recent work that has been done in this country and in Europe, and urging an early diagnosis, are always productive of much good. From my earliest experience in surgery, I have always had more or less cancer work under my observation and nine-tenths of the cases that have been referred to me—some of them by the very best men in the profession—were inoperable, and some of them were not diagnosed as cancer, but as a laceration, or a so-called ulceration. There has been an awakening upon this subject, principally in regard to early diagnosis, and the methods of making diagnosis.

Cancer in young people is not frequent; we seldom see it in persons under thirty and it is seen most frequently in child-bearing women from 35 to 55, and particularly about the age of 45; but, in view of the fact that cases of cancer have been diagnosed and operated upon at the age of 15 years, every case that consults a physician because of an irregular or profuse menstruation, or because of an excessive leucorrheal discharge that cannot be otherwise accounted for, or a watery discharge from the vagina, should be subjected to a thorough examination.

Physical examination will sometimes be sufficient to make diagnosis, but if it is not, then do eurettege of the cervical canal and of the body of the uterus, and make it so thorough that every particle of the lining is removed. I have seen cancer in the epithelial cells of the cervical canal, with metastasis near the fundus of the uterus, and with a space intervening that was perfectly healthy.

Those cases which arise in the intravaginal cervix from the epithelium pavement are the least dangerous of all, because they do not quickly invade the parametrium, bladder and rectal structures. About 16 years ago I operated on a patient, removing a cauliflower growth larger than

a goose-egg, with a very offensive discharge. I operated per vaginum (against my will) and the patient recovered and remained perfectly well. This was possible because the parametrial sutures, the bladder and rectum were not involved.

The most dangerous of all are those cases arising in the cervical canal, where they quickly run out into the parametrium, or into the bladder, and invade the glandular structures.

Then again, we have carcinoma of the body of the uterus arising from the cylindrical glands. This does not spread so rapidly, nor is there so much danger of metastasis, or invasion of the bladder or parametrium.

MEDICAL PROGRESS

DEPARTMENT OF OBSTETRICS.

By H. B. RITTER and J. B. LUKINS, LOUISVILLE.

I.

SUGAR WATER INSTILLATION IN THE TREATMENT OF ECLAMPSIA.

Dr. Jacobson (*The American Journal of Obstetrics and Diseases of Women and Children*, June, 1910), indicates that in diluting the patient's blood, administering water by the mouth was inadequate, because comatose patients cannot drink and when awake they may refuse it.

After considering all the routes, the bowel was chosen as the best absorbing surface.

It seemed to the writer that pure water created irritation of the bowel and the usual physiological saline solution was rejected as dangerous and illogical on the ground that more salts are added to that retained in the blood. The writer believes that a solution of sugar would meet all the indications, and reasons as follows:

The desideratum was to find a substance which, mixed with the water to be administered, shall be harmless and will not increase the molecular concentration and specific gravity of the blood, which are already too high. Sugar was decided upon because of its high molecular weight.

The weight of a molecule of sugar is stated to be 345, while that of salt is 58. It is clear that many more of the lighter or smaller salt molecules will go into a given volume of water than the many times heavier or larger sugar molecule. So that the molecular concentration of the blood would be speedily reduced by diluting it with sugar water, whereas it would remain the same or be increased by administering salt solution.

The solution of sugar was used in several

cases and remarkable improvement took place in the condition of the patient under continuous rectal administration by the drop method (Murphy) and the specific gravity of the blood fell.

Large quantities of water were absorbed and the quantity of urine and perspiration increased.

H. B. R.

II.

DIGITAL COMPRESSION OF THE AORTA FOR POST PARTUM HEMORRHAGE.

Englehorn (*Centralblatt für Gynäkologie, Leipzig*) comments on the hard retracted condition of the uterus when there has been much loss of blood.

The shutting off of the blood supply starting vigorous retraction in the uterus. He is convinced that the same effect can be realized by systematic compression of the aorta with the fingers pressing it back against the spine until the femoral pulse ceases to be perceptible.

In two normal cases in which this compression was applied for 150 pulse beats, the uterus contracted vigorously and the placenta was early expelled.

H. B. R.

III.

PERNICIOUS VOMITING OF PREGNANCY.

(*The Journal of the American Medical Association*, Vol. LIX., May, 1910.) Dr. Adam H. Wright, Professor of Obstetrics, University of Toronto, reports the use of morphin in large doses, one-half grain hypodermatically and one quarter-grain one hour later if sleep is not produced. Calomel is then given, one grain every hour, until four to eight doses are given.

If the nausea returns this treatment is continued for a number of days until the patient has no nausea. The morphin is now given in smaller doses at bed time for a number of days and then stopped entirely.

He reports one case in which the ammonia coefficient rose to 14% (above 10%), yet the patient recovered, went to full term and is now a happy mother.

Dr. Wright says in this connection, it should be understood that emptying the uterus in a case of pernicious vomiting of pregnancy is one of the most dangerous operations in obstetrical surgery.

There have been a number of heart-rending tragedies in Toronto from this cause during the recent years. In connection with these serious cases two things should be kept in mind; (1) That the administration of chloroform is exceedingly dangerous, and (2) That forcible dilation of the cervix is perhaps still more dangerous. The common statement by

experts that this operation is practically free from danger provided perfect asepsis is observed is woefully incorrect in such cases.

H. B. R. es

IV.

CARE OF THE BREASTS DURING THE PUERPERIUM.

H. E. Lindeman (*Bull. Lying-in Hosp. N. Y.*, Vol. VI., No. 3, 127) reports the results obtained with Williams' method in a series of 100 cases. This method is characterized by the omission of breast binders in ordinary cases and the use of loose supporting binders in patients with large or flabby breasts. Half-grain doses of codeine are given every four hours if the breast becomes painful, and no particular attention is paid to the bowels or the diet. The fluids are not restricted nor are the patients purged. The chief results of this method of treatment were excellent, and simplicity which characterizes it constitutes a source of great satisfaction to nurses and patients.

H. B. R.

V.

SCARLATINA IN THE PUERPERAL STATE.

A. Bonnett-Laborderie (*Jour. des Sci. Med. de Lille*, March 26 and April 30, 1910) believes that it is an error to consider that there is a special septicæmia due to scarlatina, and thinks that scarlatina, when it occurs in a puerperal woman, is merely an intercurrent disease. He gives two cases in young women who had been confined at the hospital who contracted scarlatina during their puerperal days, and in both it was no more serious than is usually the case with scarlatina. There were no abnormal symptoms. The polymorphism of scarlatina sometimes makes the diagnosis difficult. The symptoms are often of the abortive type. The eruption generally appears on the trunk and abdomen and the face is often clear. Young infants are relatively immune to scarlatina, and a mother having the disease should be allowed to nurse her infant, since she confers on it some immunity to the disease.

H. B. R.

VI.

MANAGEMENT OF THE BREAST IN THE PUERPERIUM AND DURING LACTATION.

Bacon (*Surg. Gyn. & Obs.*, September, 1910) in discussing this subject, gives death of the child, lung and throat tuberculosis, and serious heart or kidney disease, or other general disease that would make the drain of nursing a menace to the life of the mother, as the only indications for stopping lactation. Syphilis and acute infections are not indications for stopping nursing, neither is reappearance of menstruation. He says that proper bandaging, with massage or ice applications is the best treatment; that ointments

and internal medication are not necessary, and that breast pumps are undesirable. There is absolutely no danger of infection if the breasts are let alone. Daily washing of the nipples with soap and water during the last month of pregnancy is the best ante-lactational treatment.

The statement that the proper management of lactation involves the avoidance of, or proper treatment of infection of the gland and nipples is discussed under the following heads:

- (a) Influencing factors.
- (b) Sources of contamination.
- (c) Method of preventing infection.
- (d) Method of treating infection.

The influencing factors are the activity of the mammary gland, the character and size of the nipple, and the general resistance of the maternal organism.

The sources of contamination are the bacteria of the skin of the breast, dirt from the clothing, dirt from the fingers of the nurse and mother, and the dirt or pus from the face or head of the child.

Infection is prevented by washing the nipples and breasts themselves with soap and water before each nursing, and with 60 to 80 per cent alcohol afterwards, and keeping the breasts covered between nursings with sterile gauze.

Slight infection is controlled by alcohol and the use of nipple shield; deeper infection by radical treatment. Nursing should be stopped, bandage put on and ice applied. All measures which interfere with absolute rest of the breast are prohibited. This treatment has proven efficient in about 90 per cent of all cases.

J. B. L.

VII.

PUBIOTOMY A JUSTIFIABLE OPERATION.

Williams (*Amer. Jour. Obst.*, May, 1910) publishes the results of 25 pubiotomies, with no maternal and three foetal deaths, one of which could be attributed to the operation. These patients were delivered by forceps or version immediately after the operation. The bladder was uninjured and there were six perineal and five deep communicating vaginal tears in the series. Twelve of the cases were primiparæ. The absence of severe injury was attributed to restricting the operation to moderate grades of pelvic contraction, the use of Döderlein's method, and extensive manual dilatation of the vagina and perineum before operation. In delivering the child, to avoid injury it is best to make horizontal instead of upward traction. In the after treatment, a four-inch strip of adhesive plaster was sufficient to hold the pelvis. Patients usually moved in bed between two and four days, were out of bed by the twentieth, and were

discharged on the thirtieth day with satisfactory locomotion. Healing occurred by fibrous union, leaving well-defined mobility between the ends of the bone in two-thirds of the cases. Williams estimates that maternal mortality should not exceed 2 per cent with competent operators and in uninfected unexhausted patients. The operation in indicated in contracted pelvis with a true conjugate above 7 cm., and in funnel-shaped pelvis after a test of several hours in the second stage of labor has shown the necessity for operation. In breech extractions, and in transverse presentations treated by version, it may be best to place the saw in position before delivery, so that the pelvis can be opened as soon as it can be seen that the child cannot pass without difficulty. In multiparæ with repeated difficult labors, or in primiparæ with excessive disproportion, pubiotomy is inferior to Cesarean section and at the end of pregnancy or the beginning of labor. Williams takes the view that the test of labor renders Cesarean section dangerous, but does not prevent the successful performance of pubiotomy in cases of moderate pelvic contraction. He believes that in uninfected women pubiotomy should replace high forceps, prophylactic version, induction of labor, and craniotomy upon the living child. It is not to be employed upon infected patients or after other means to deliver have failed. It must be considered as a primary operation the dangers of which are infection, hemorrhage, and deep lacerations. When, during the operation, the ends of the bone do not separate wider than 4 or 5 cm., patients recover well and are able to walk and work as well as ever. Permanent enlargement of the pelvis in the transverse diameter of the outlet, and, to a slight degree, in the true conjugate, follows the operation when the pelvis heals with fibrous union. This enlargement, in a subsequent pregnancy, may be sufficient to permit spontaneous labor. If not, the operation may be repeated, while Cesarean section should be limited to cases in which the pelvic contraction is marked and the child is large.

J. B. L.

VIII.

THE TREATMENT OF PLACENTA PRAEVIA.

Hauch (*Monatschrift f. Geburts und Gynäk.*, Band, XXXI., Heft 5, 1910) reports the results of the treatment of placenta prævia in 240 cases in the Copenhagen clinic. Dilatation of the cervix by Bossi's dilator and vaginal Cesarean section were not considered suitable operations for placenta prævia. The classic Cesarean section were not performed for this indication. Among the 240 cases there were 18 or possibly 20 coming

within the indications given by Sellheim, Bumm, Küstner and Pfannenstiel, for extra-peritoneal section. In view of the lack of extensive experience in this operation for placenta prævia, these cases were delivered by other methods.

The examination of the result shows that the 240 cases were observed in 24,000 parturient women, giving a frequency of 1 per cent. Of these, 22 mothers perished, a mortality of 9.1 per cent; of these patients, 144 were treated by the use of elastic bags, with a mortality of 16, or 11.1 per cent. Among these were 60 cases of central placenta prævia, and 84 cases of partial placenta prævia. Among these patients the elastic bag was placed outside the ovum in 96, with a maternal mortality of 15.6 per cent; while the bag was placed within the cavity of the ovum in 48, with a mortality of 2.1 per cent.

The Braxton-Hicks method of delivery was employed in 18 cases, with no maternal mortality. Of these, there were 6 cases of central placenta prævia, and 12 of partial. In the whole series the most common cause of death was hemorrhage and exhaustion. Septic infection proved fatal for the mothers in 1.2 per cent of cases. The mortality of central placenta prævia was 15.3 per cent; of partial placenta prævia, 5.8 per cent. Of the 144 cases treated by the use of dilating bags, there were 28 primiparæ, with a mortality of 3.6 per cent, and 116 multiparæ, with a mortality of 5.2 per cent. In these patients there were 235 in whom the ovum was sufficiently developed to be classed as a fœtus. The mortality among these was 62 per cent. In cases in which the dilating bag was used without the cavity of the ovum, the fœtal mortality was 44 per cent; and in which the bag was introduced within the cavity of the ovum, the fœtal mortality was 52 per cent. In central placenta prævia the fœtal mortality rose to 65 per cent, and in partial placenta prævia to 44 per cent.

In cases of infection the origin of this complication could be ascribed, as a rule, to the introduction of the tampon, often before the patient had been brought to hospital. The prolonged use of the bag for four or five hours also predisposes to infection. This danger was greater when the bag was applied outside the cavity of the ovum than when it was introduced within the ovular cavity, and the conclusion is reached that it was unjustifiable for this reason to hasten labor in placenta prævia by the use of the elastic bag. In 11 cases, considerable laceration of the cervix was observed, and among these there were 9 which had been treated by the use of the elastic bag. Lacerations which are not extensive are often overlooked, but as they give rise to hemorrhage and infection they furnish a

considerable complication. Whenever the extraction of the child was difficult, laceration was inevitable. It is advised that a bag at least 10 cm. in diameter should be employed for dilation, so that as complete dilatation as possible may be obtained. The operator is cautioned that if in version and extraction the operation does not proceed readily, he should desist and allow the child to be spontaneously expelled. In 70 per cent of cases in which the elastic bag was employed a weight was attached to the bag to hasten dilatation. Among these patients there were five severe lacerations of the cervix, with two deaths from hemorrhage. The bag remained in position in these cases between five and six hours on the average. Where a weight was not attached to the bag, lacerations were much less frequent and severe, and the bag remained between three and four hours on the average. In primiparæ the use of the bag was prolonged to over six hours, and when a weight was attached to the bag the average duration of its use was seven and nine-tenths hours, while without the weight four and four-tenths hours usually completed dilatation. It is difficult to decide whether the use of the weight could be definitely assigned as the cause for lacerations, but the results were carefully observed, as stated. The operator is urged to be excessively cautious in version and extraction in placenta prævia, and especially after the use of dilating bags. The weight should be attached to the bag only in those cases in which there is considerable hemorrhage or the labor is unduly prolonged. If the interests of the mother alone are to be considered, and especially if the patient cannot be brought to the hospital, the Braxton-Hicks method remains the safest and most applicable.

J. B. L.

Wax Casts of Dermatologic Specimens.

Photinos took a course of training in making casts under Lassar's modeler, and has since been making a collection which now amounts to 150 casts. The modeler at the Saint-Louis Hospital in Paris keeps the composition of his wax a secret, but at Berlin a mixture of wax, ceresin and paraffin is used. Photinos expatiates on the invaluable assistance of a collection of such casts gives minute directions how to make the wax casts and paint them.

Infection of Persons with Inherited and Acquired Syphilis.—Stern's patient was a man of 28 who had a primary syphilitic sore with numerous pale spirochetes, differing in no respect from an ordinary primary infection with syphilis; and yet the man presented the unmistakable signs of inherited syphilis or syphilis acquired in early infancy, with tertiary phenomena. This makes the ninth case on record, Stern remarks, in which persons with syphilis in infancy, either inherited or acquired during the first weeks of life, acquired a fresh infection in early adult life. He summarizes 80 cases of reinfection in cases of acquired syphilis, and draws the conclusion that the reinfection in many instances is conclusive testimony to the complete cure of the primary infection. He emphasizes the necessity for teaching patients this, so that those who have had syphilis in the past may guard against contracting it anew instead of considering themselves immune. His experience also indicates that a strong, resistant organism may pass through syphilis with the organs comparatively intact and escape the dreaded consequences. The pessimistic idea that a person once infected is always infected and immune to future infection should be combated, he declares, for numerous and obvious reasons.

Removal Through Perineum of Cancers of Rectum and Anus.—Delore and Chalié relate the particulars of 19 cases in which they performed this operation. All but 5 of the patients were women, and all but one were over 50. The patient lies on his back, the hips projecting beyond the edge of the table. The thighs are held by assistants, flexed on the pelvis in such a way that the anus protrudes and points upward. It is sutured together and an incision is made encircling the anus, with a lengthwise median extending below and above, the latter incision extending to the coccyx. The coccyx is resected at its base and the entire rectum, with its sheath and ganglia, is extirpated in a single piece. The resection of the coccyx facilitates the detachment of the rectum, which is commenced at the back, and thus better insight over the conditions is obtained. One of the patients thus operated on eight years ago is still in good health, and another, who succumbed to intercurrent tuberculosis a year and a half after the operation, showed no signs of recurrence. One patient operated on four years ago is in good health to date, and is free from incontinence. Two patients suc-

cumbed soon after the operation, one to acute peritonitis when all seemed to be doing well, and another in collapse after a comparatively simple operation. The ultimate outcome is not known in five cases, but in none of the others has there been recurrence. The details of the various cases are given, with a summary in tabulated form for comparison.

Treatment of Glandular Cysts of the Pancreas.

—Hardouin diagnosed a fluid tumor behind the stomach, probably in the pancreas or lower part of the liver. Through a median laparotomy the tumor was punctured and two liters of a turbid, greenish-brown fluid were evacuated. The cyst was then incised and sponged dry, but it could not be removed, as it was adherent to the stomach and adjacent structures. An incision, 15 cm. long was then made in the lumbar region, and two large drains were introduced into the cyst, after which the abdominal wound was sutured. The lumbar fistulae healed completely in three months, and the patient, a farmer of 48, has been in good health since. There was a history of contusion a few months before the tumor was first noticed, and traumatism was also mentioned in 17 out of 94 cases on record. The fluid obtained from the cyst was evidently of pancreatic origin. Lumbar drainage should be the rule, Hardouin thinks, in all cases of pancreatic cysts, for obvious reasons. He appends the bibliography for the last six years.

Carriage of Infection by Flies.—Buchanan records experiments in demonstration of the part which the common house fly and the blue-bottle fly are capable of playing as agents in carrying and spreading infection. The diseases which were made the subject of experiments were typhoid, swine fever, staphylococcal abscess, pulmonary tuberculosis and anthrax. The experiments showed that flies alighting on any substance containing pathogenic germs are capable of carrying away these organisms in large numbers on their feet and of depositing them in gradually diminishing numbers on surface after surface with which they come in contact. They further demonstrate the necessity of the exercise of stringent measures to prevent the access of flies to all sources of infection and to protect food of all kinds against flies alighting on it.

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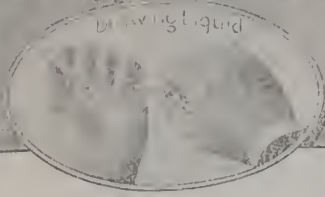
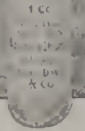
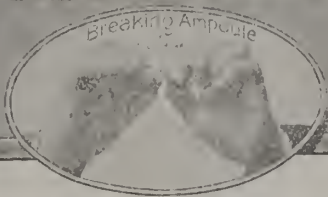
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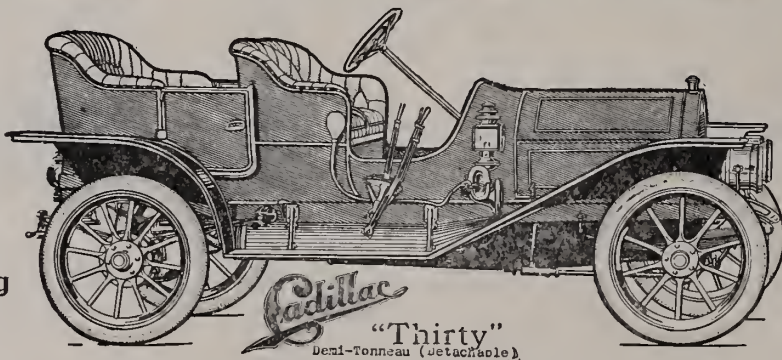


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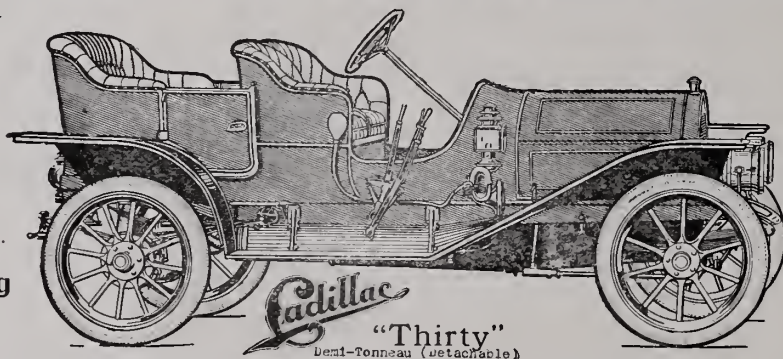


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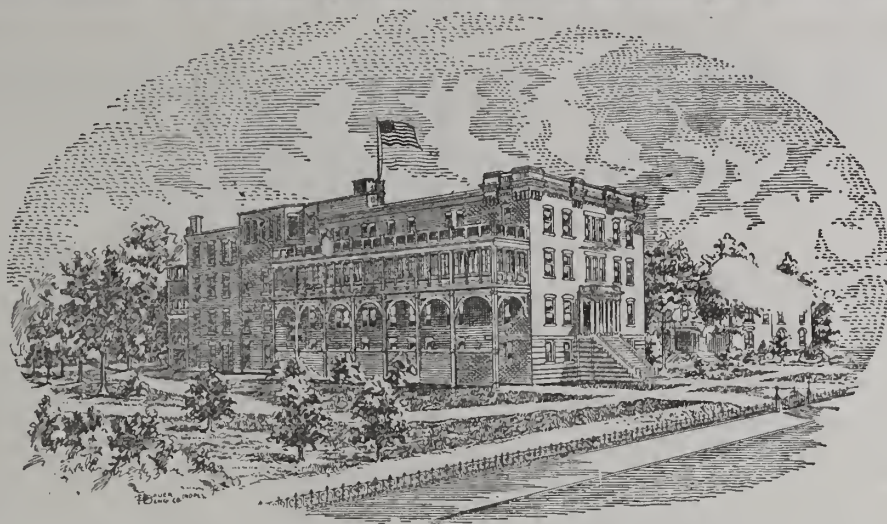
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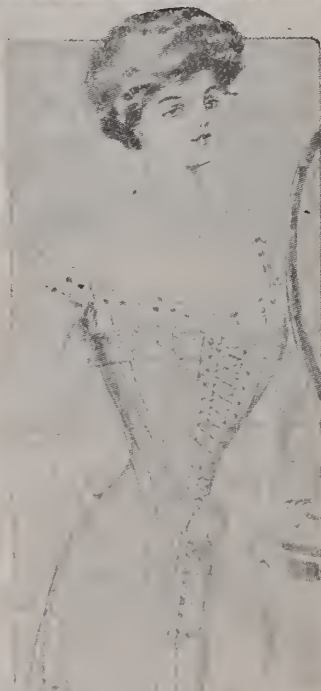
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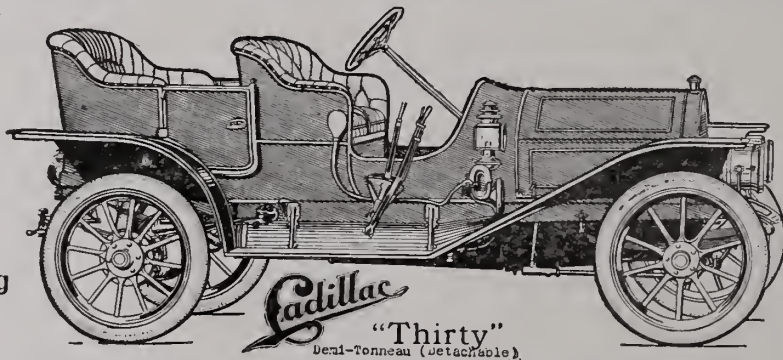


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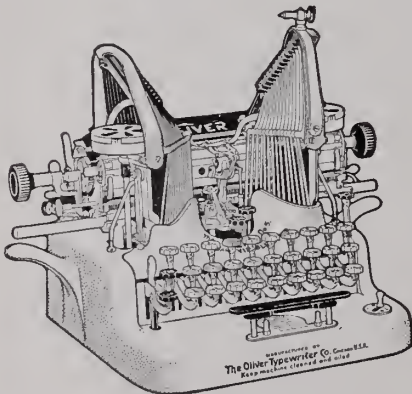
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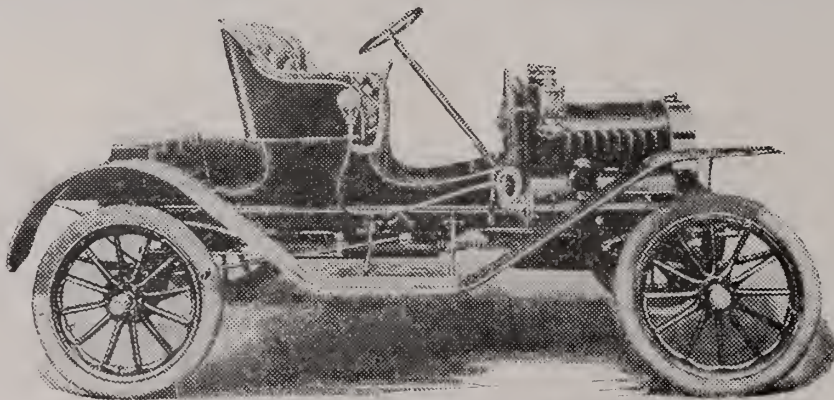
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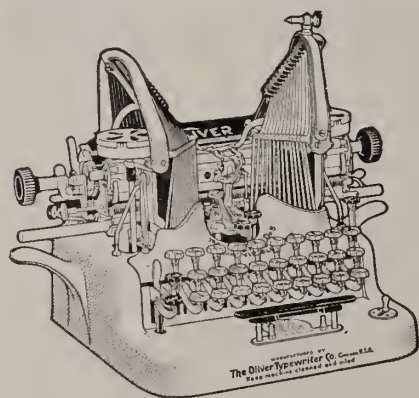
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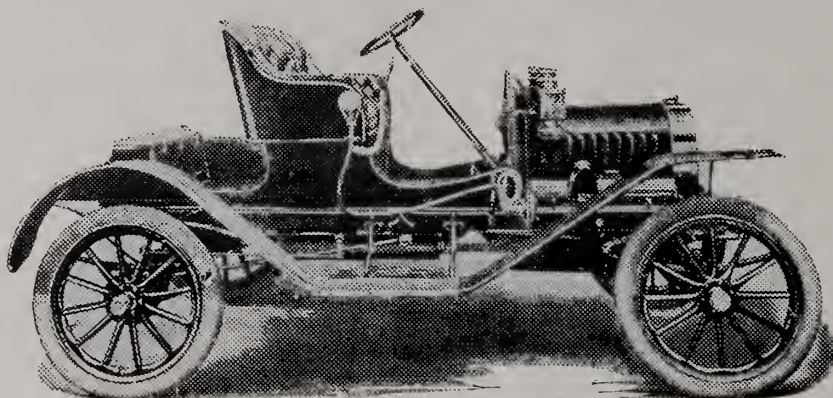
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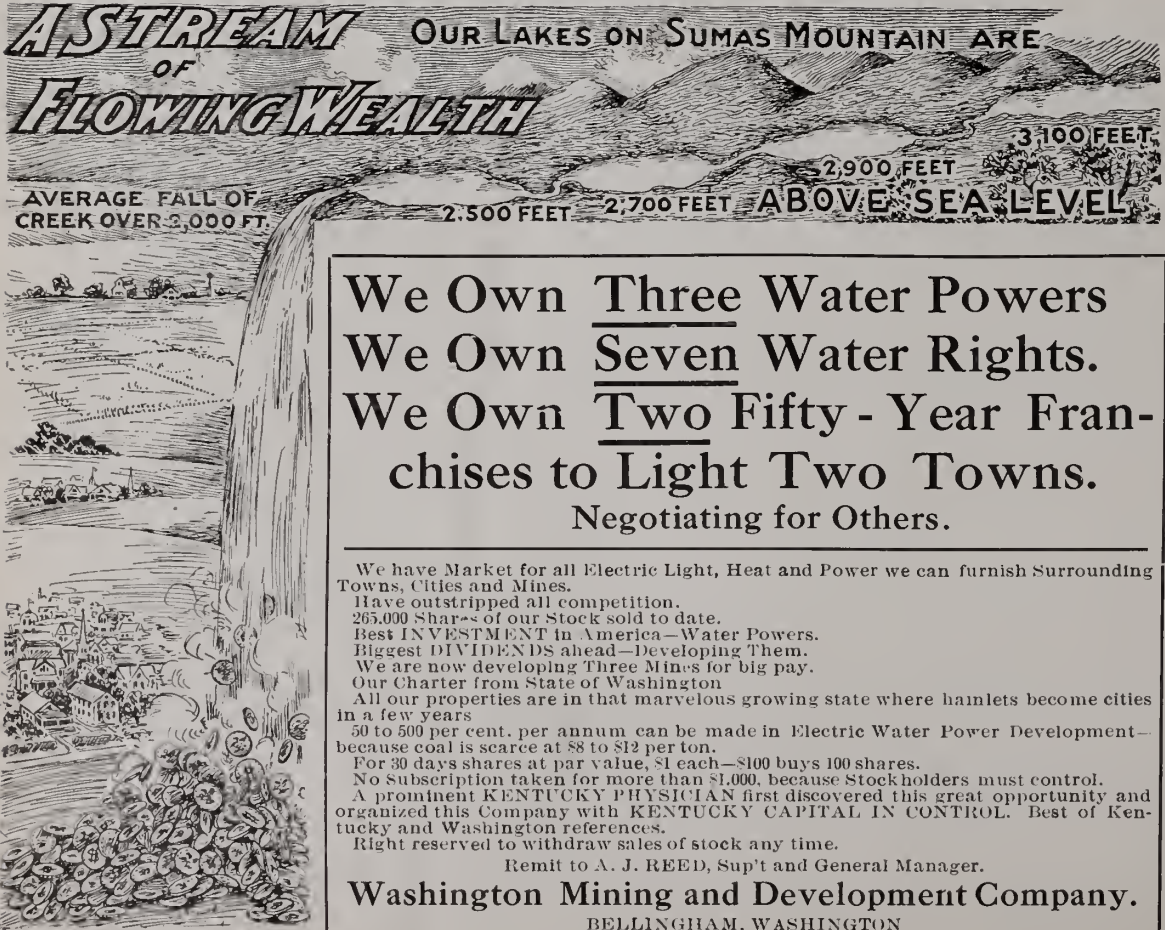
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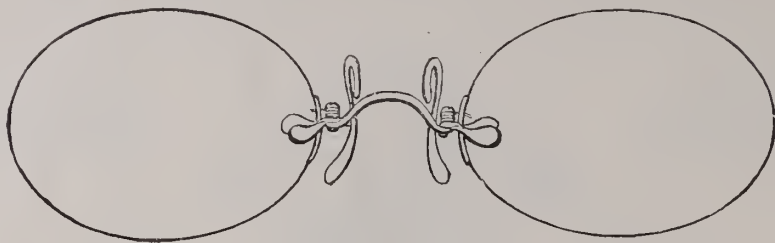
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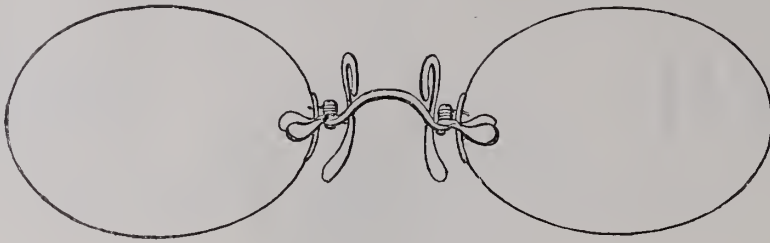
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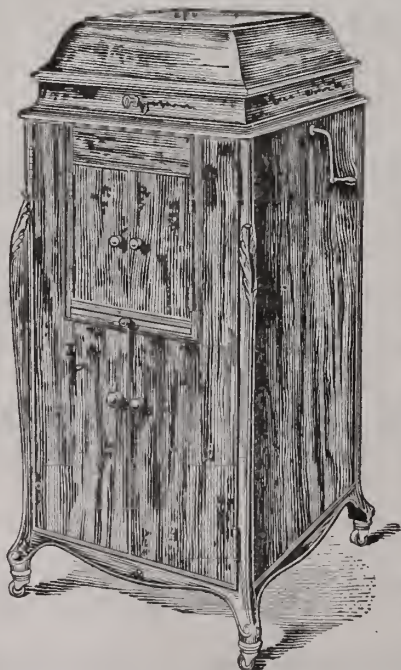
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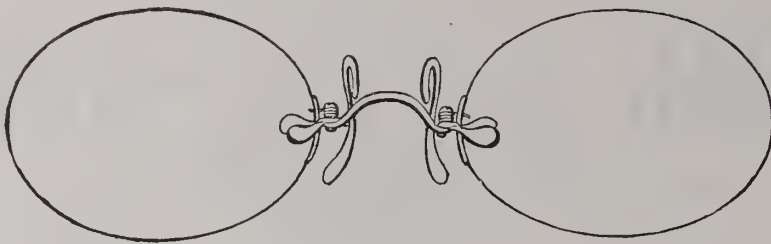
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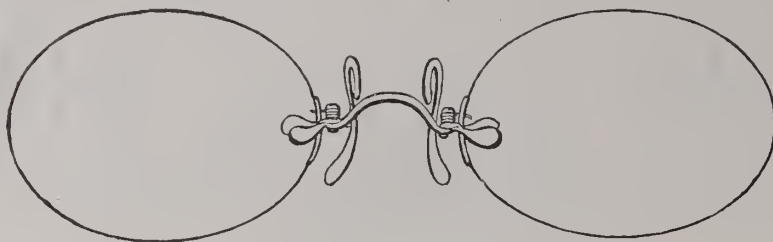
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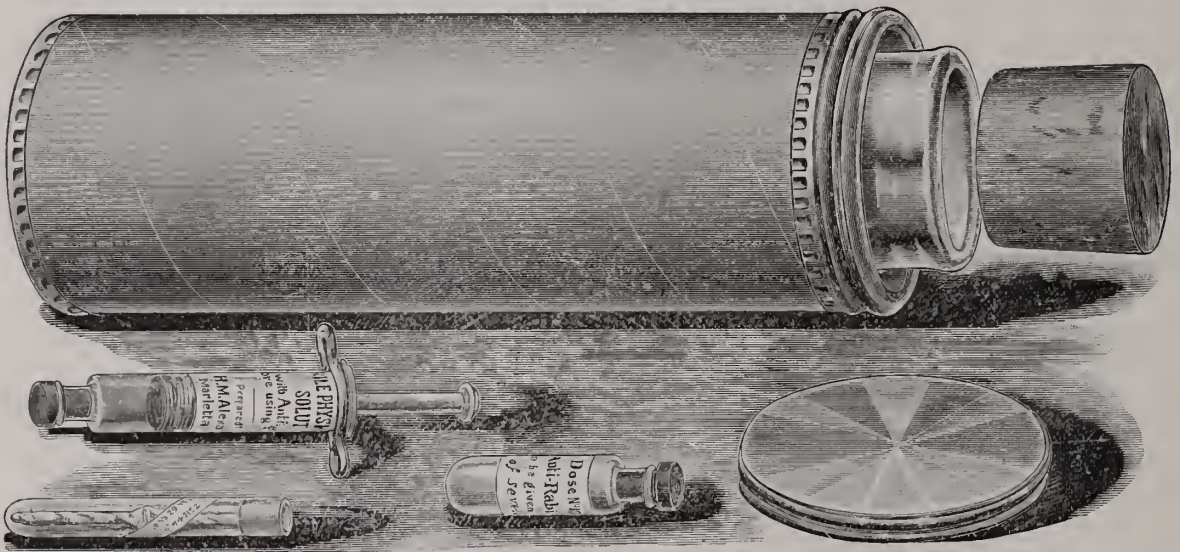
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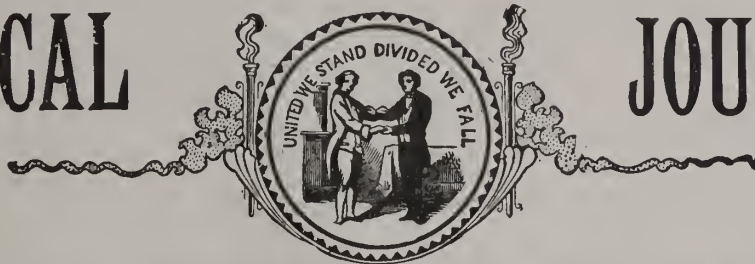
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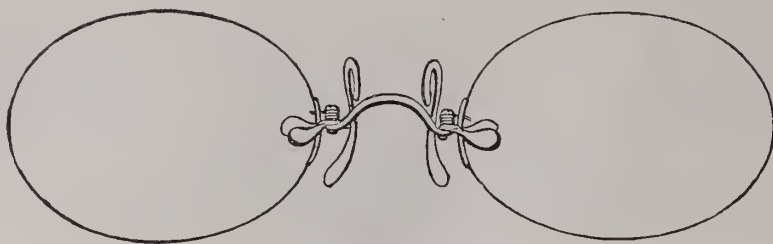
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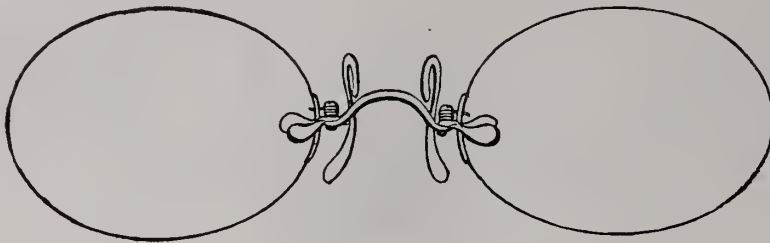
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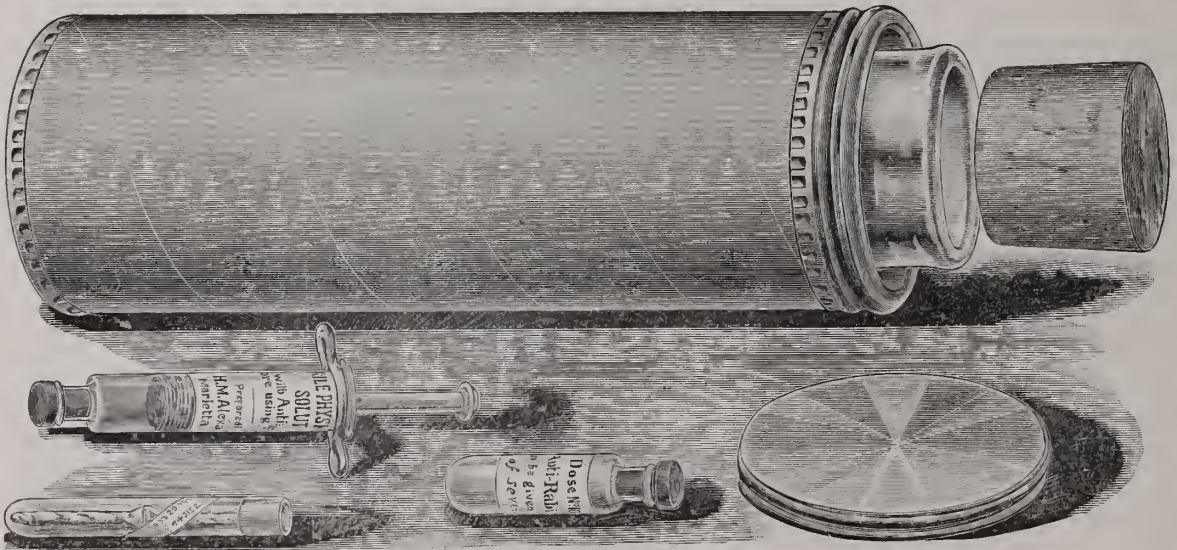
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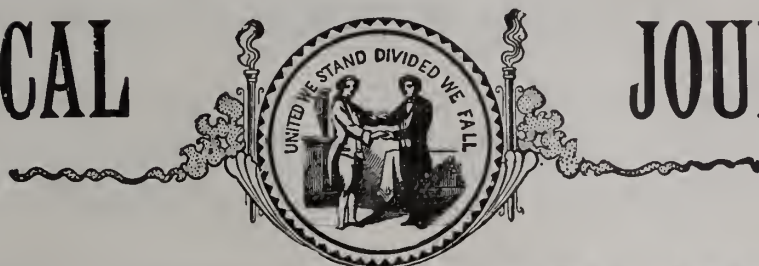
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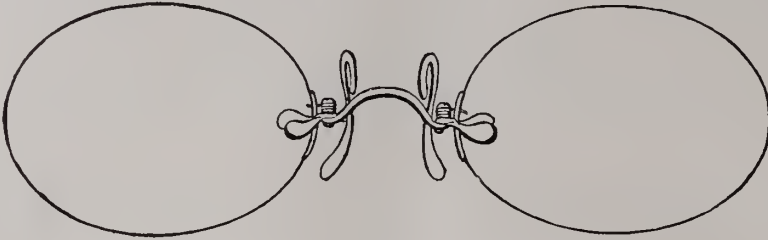
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